

**CALIFORNIA
MOTOR VEHICLE STOCK, TRAVEL AND FUEL
FORECAST**



California Department of Transportation

Transportation System Information Program

November 1999

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**CALIFORNIA DEPARTMENT OF TRANSPORTATION
TRANSPORTATION SYSTEM INFORMATION PROGRAM**

NOVEMBER 1999

This report was prepared in cooperation with the
U.S. Department of Transportation
Federal Highway Administration

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Conversion Factors

The following factors are used in this report to convert U.S. units to metric units.

$$\text{Kilometers} = 1.609 \times \text{Miles}$$

$$\text{Liters} = 3.785 \times \text{Gallons}$$

I. SUMMARY

This is the fifteenth of a series of California Motor Vehicle Stock, Travel and Fuel Forecast (MVSTAFF) reports. The reports provide historical estimates and forecasts of the number of registered vehicles, miles of travel, fuel consumption, and fuel economy on a statewide basis. The forecasts are disaggregated into six vehicle body types (autos, four weight classes of trucks, and motorcycles) and two fuel types (gasoline and diesel).

The forecasts are primarily intended for short and long range statewide transportation planning, traffic forecasting and projections of revenues from excise taxes on fuel. In response to numerous requests, the statewide vehicle miles of travel (VMT) forecasts are distributed among the 58 counties and two major road systems (State Highways and all "Other" public roads) for substate planning, including transportation and air quality modeling and analysis. For the purpose of air quality conformity analysis the 1990 county VMT table is included in the appendix. Also included in this report are the vehicle fuel consumption (VFC) distributions by the 58 counties and the two-fuel types gasoline and diesel.

The MVSTAFF process requires long-term projections of statewide population, economic growth (total personal income), fuel prices, inflation, and interest rates. For this forecast, population numbers were obtained from the latest California Department of Finance (DOF) population projection reports (Ref. 4 and 5). All other variables, including fuel price, were derived from the WEFA Group, "U.S. Long-Term Economic Outlook, 3rd Quarter 1999" (Ref. 7). The WEFA Group projections represent a "trend/moderate growth" scenario. The MVSTAFF forecast, therefore, reflects the same scenario superimposed on the DOF population projections and the existing legislation regarding current and future sales and excise taxes on fuel. The socioeconomic assumptions are further documented in the report.

The forecast results are summarized in Figure-S1. For the current year (1999), total vehicle miles of travel (VMT), and vehicle fuel consumption (VFC) are projected to increase by 2.30%, and 1.86%, respectively, from the previous year.

In 2000, the economy is expected to rise moderately. Real total personal income per person, total vehicles, VMT and fuel consumption are projected to increase by 1.67%, 2.54%, 2.13% and 1.83% respectively.

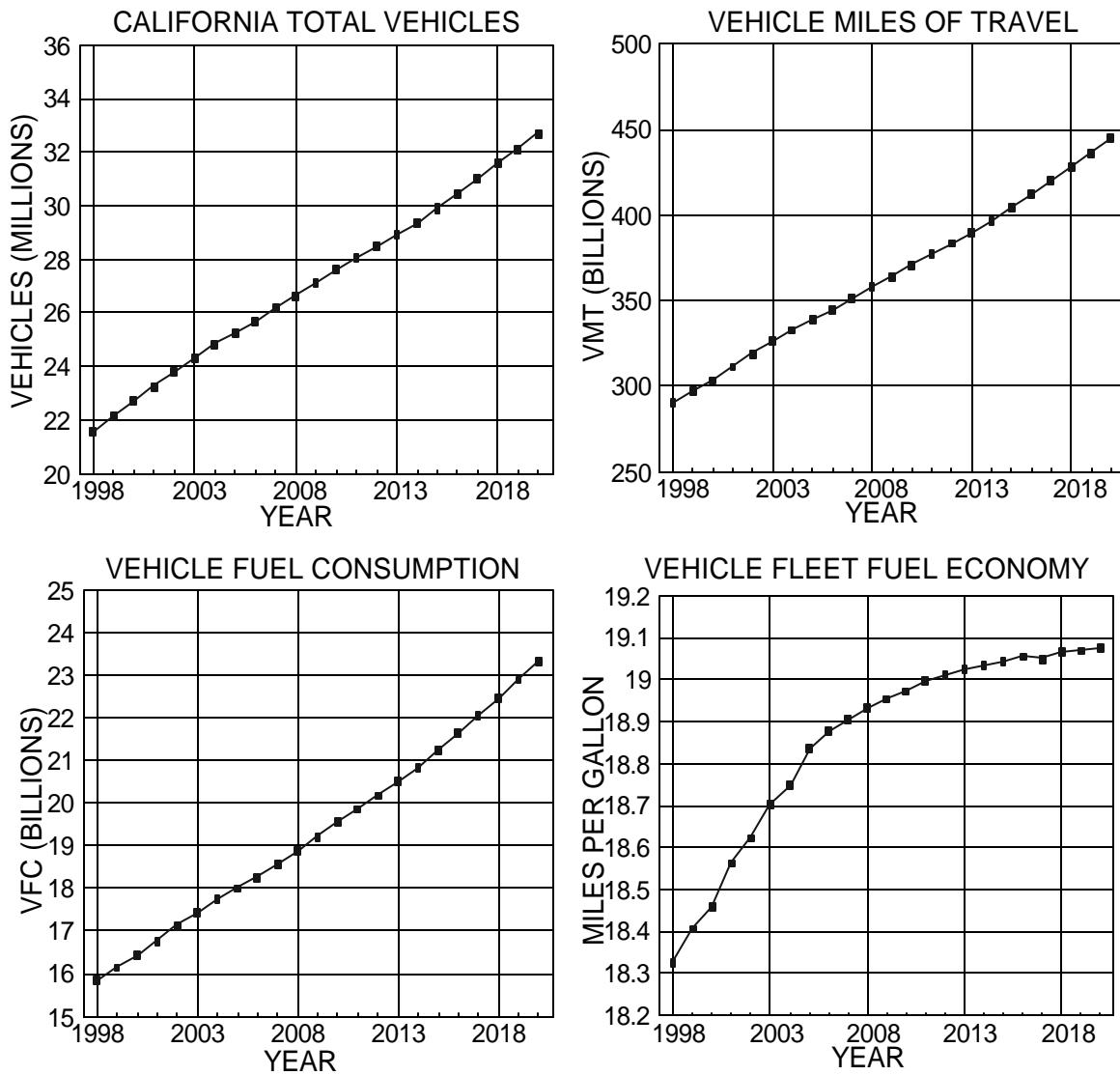
The long-term forecast is for total vehicles, vehicle travel, and fuel consumption to continue to increase but at declining rates. Under the assumption that the Corporate Average Fuel Economy (CAFE) standard for new cars will remain at 27.5 miles per gallon, and the projected increase in the proportion of heavy duty truck travel, the fleet fuel economy will reach a peak value of 19.08 miles per gallon by year 2020.

Past and projected growth in California vehicle miles of travel are affected by: population, real total personal income per person (IPP), vehicles per person (VPP), and the fuel cost per mile (FCPM) of travel, all of which are put in a historical perspective in Figure-S2. The figure shows the percent change in the variables, from the beginning of one decade to the next, for the past 50 years and the 20-year forecast period. The following can be noted from the figure:

- The decade of the 1950's experienced a 71% increase in VMT which was driven primarily by a 49% increase in population and helped along with moderate increases in per capita total personal income and vehicle ownership.
- The 1960's saw a 64% increase in VMT although population grew at about half the rate that it did in the 1950's (26% vs. the previous 49%). The driving force in the 1960's would appear to be the growth in per capita income and vehicle ownership, the highest in the 40-year history.
- The 1970's produced the smallest percentage increase in VMT (38%) in the last 40 years as a result of the lowest percentage increase in population in 40 years, a slower growing economy and sharply rising fuel prices in the last half of the decade.
- In the 1980's, VMT grew by 62%, rivaling its growth in the 1950's and 1960's. At the same time per capita income and vehicle ownership grew by only 12% and 7%, respectively. Most of the growth in VMT in the 1980's can therefore be attributed to strong population gains (26%) and the precipitous drop in the real fuel cost per mile of travel (57%), resulting from a 45% drop in the real price of fuel and a 30% increase in the on-road fleet fuel economy.
- In the 1990's, VMT is forecasted to grow but at greatly reduced rate of 18% as population growth slows down to 16%, personal income shows small (9%) growth. Fuel cost per mile drops 11% with increasing fuel efficiency and decreasing fuel prices in constant dollars.
- In the 2000's and 2010's VMT is forecasted to grow moderately (22% and 20%) as population growth rates decrease slightly under the 1990's (15% and 14%), personal income increase moderately (14% and 13%). Fuel cost per mile has a small increase of less than 4 percent in the 20-year period.

Estimates of total system and state highway system vehicle miles of travel for the period 1965-2020 are shown in Figure-S3. Estimates of gasoline, diesel and total fuel consumption for the years 1965-2020 are shown in Figure-S4.

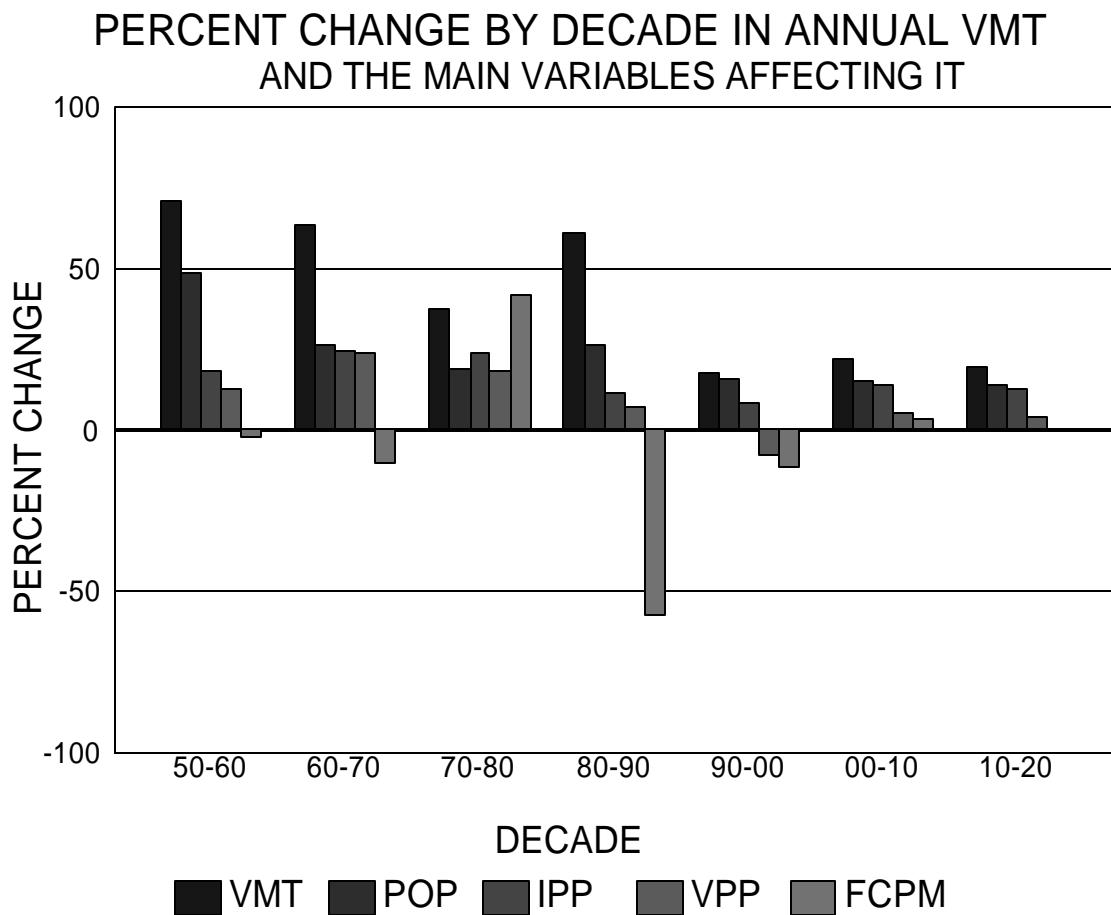
Figure-S1
Motor Vehicle Stock, Travel and Fuel Forecast



CALIFORNIA TOTAL VEHICLES, VMT, FUEL AND MPG FORECAST

YEAR	VEH	VMT	VFC	MPG	YEAR	VEH	VMT	VFC	MPG
1998	21.55	290.5	15.85	18.33	2010	27.61	371.1	19.56	18.97
1999	22.13	297.2	16.15	18.41	2011	28.04	377.2	19.86	19.00
2000	22.69	303.5	16.44	18.46	2012	28.47	383.5	20.17	19.01
2001	23.25	311.4	16.78	18.56	2013	28.92	389.9	20.50	19.03
2002	23.80	319.2	17.14	18.62	2014	29.37	396.5	20.83	19.04
2003	24.33	326.2	17.44	18.70	2015	29.90	404.3	21.23	19.04
2004	24.84	332.8	17.75	18.75	2016	30.45	412.2	21.63	19.06
2005	25.27	339.1	18.00	18.84	2017	31.01	420.1	22.05	19.05
2006	25.70	344.8	18.26	18.88	2018	31.57	428.3	22.47	19.07
2007	26.17	351.1	18.57	18.91	2019	32.13	436.5	22.89	19.07
2008	26.65	357.7	18.90	18.93	2020	32.70	444.8	23.32	19.08
2009	27.13	364.2	19.22	18.95					

Figure-S2



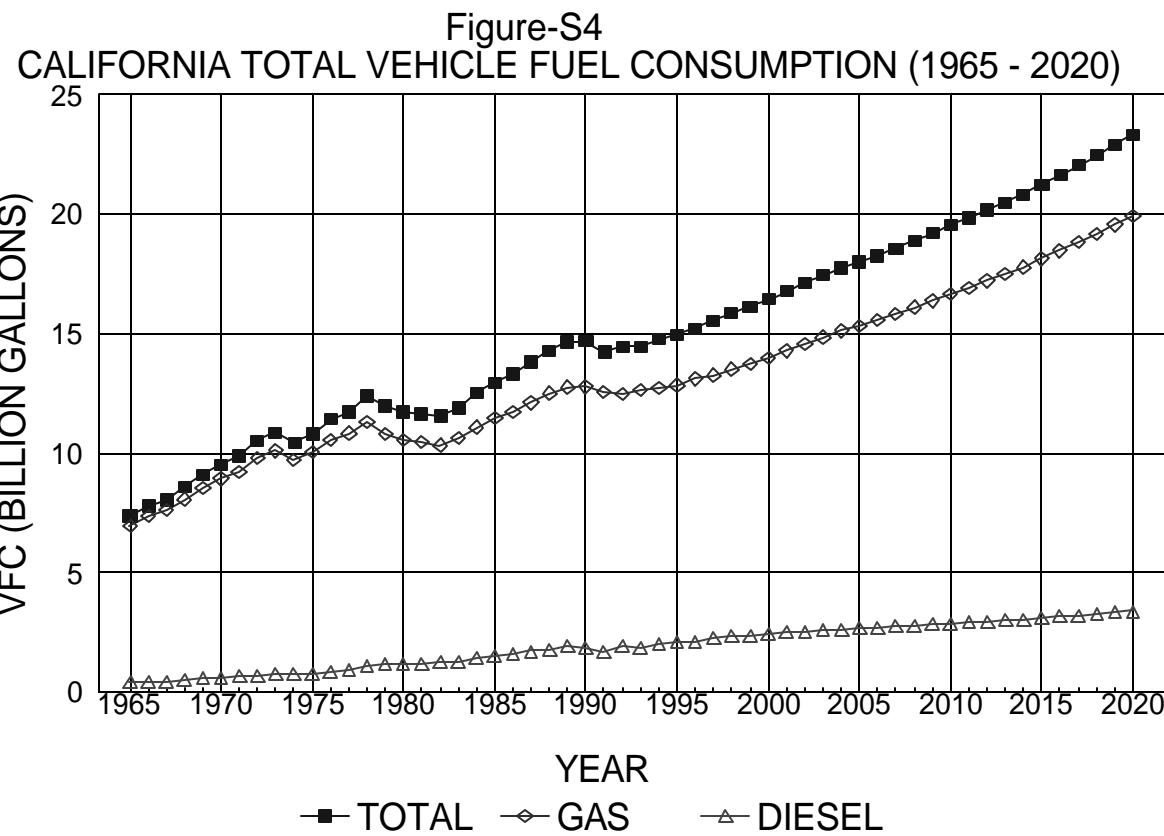
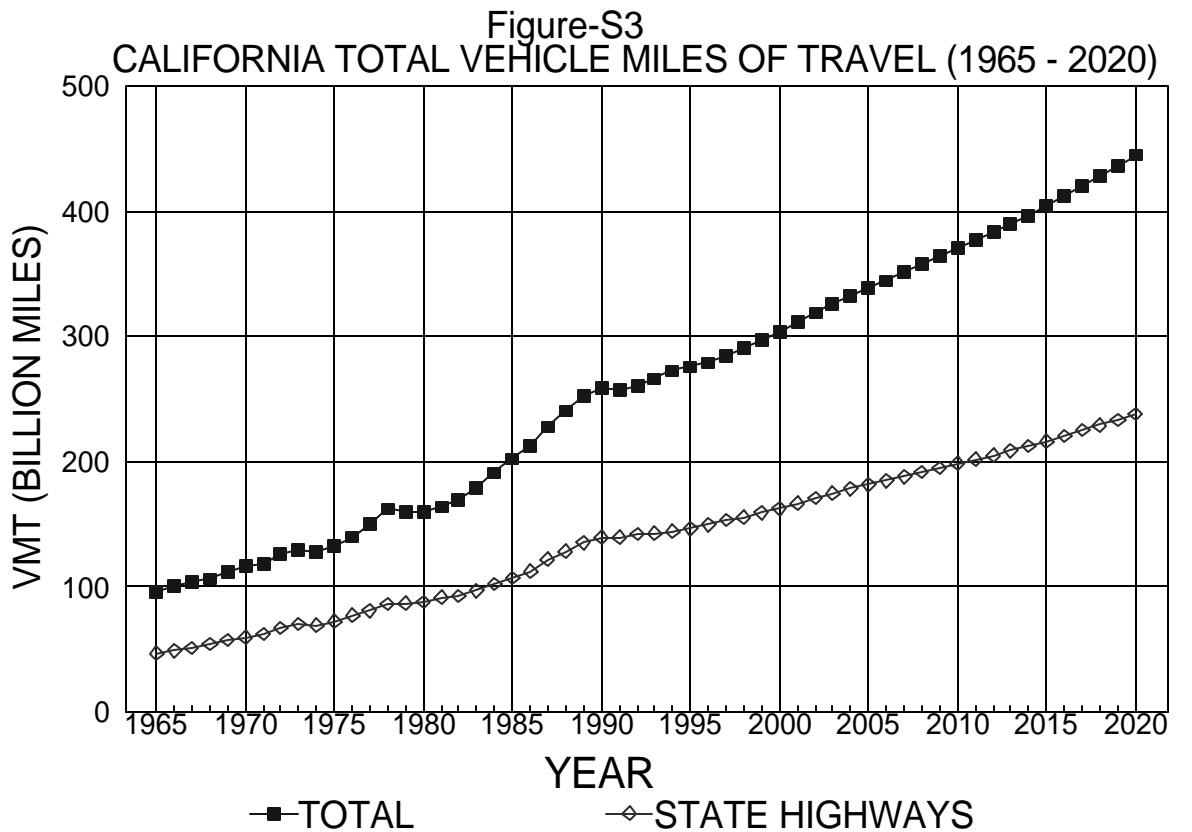
VMT: Vehicle Miles of Travel

POP: Population

IPP: Total Personal Income Per Person (67\$)

VPP: Vehicle Per Person

FCPM: Fuel Cost Per Mile (67\$)



II. INTRODUCTION

The California Department of Transportation utilizes estimates and forecasts of statewide vehicle miles of travel (VMT) and vehicle fuel consumption (VFC) for a number of planning and reporting purposes. For example, estimates of VMT are needed annually for the FHWA-mandated Highway Performance Monitoring System (HPMS) program, and as input to the California Highway Patrol annual reporting system. Intermediate and long-term forecasts of VMT and VFC are used for system planning, projections of revenues from excise taxes on fuels, and air quality and energy conservation programs. To ensure that the forecasts are produced with appropriate, consistent and state-of-the-art methodologies, the Transportation System Information Program has developed the California Motor Vehicle Stock, Travel and Fuel Forecast (MVSTAFF) process which it updates on a continuous basis. The results of applying the process are reported in the MVSTAFF Report, which has been published annually since 1984, except for 1990.

The forecasts are based on socioeconomic data developed by the Office of Travel Forecasting and Analysis of the Transportation System Information Program using the latest California Department of Finance population projections (Ref. 4 & 5) and economic projections from the WEFA Group (Ref. 7) and the UCLA Anderson Forecast (Ref.3). These forecasts are primarily intended for use at the statewide level. However, the statewide total VMT forecasts have been allocated down to the county level in response to numerous requests for data at a substate level for transportation and air quality modeling and analysis.

The remaining sections of the report follow the outline listed below:

- An overview of the MVSTAFF process.
- A brief description of the socioeconomic projections which drive the forecasting process.
- A brief description of the forecast results.
- An appendix gives the county VMT (Appendix B) and VFC (Appendix C) distribution based on statewide forecasts. The statewide VMTs are distributed to the 58 counties by State Highways and all "Other" public roads and the statewide VFCs are distributed to the 58 counties by gasoline fuel and diesel fuel.

III. MVSTAFF PROCESS OVERVIEW

The MVSTAFF process is a recursive procedure, which estimates, for each year of the forecast period, the following:

- The motor vehicle stock (average number of currently registered vehicles) by six body types, two fuel types, and 25 model years or age groups.
- The fuel economy of the total fleet and each model year fleet.
- The vehicle travel and fuel consumption for the total fleet and each model year fleet.

The process consists of four major parts, which are outlined in Figure-1 and briefly described below.

1. Inventories

- Base year estimates and future year projections of the socioeconomic variables which are assumed to be the causative factors for acquiring vehicles and generating travel; base year fuel consumption; and explicit assumptions about new vehicle fuel economy.
- The base year vehicle stock stratified by vehicle type and model year, and derived estimates of the on-road fuel economy of each stratum of vehicles in the base year fleet.

2. The Stratified Rate Model

- When applied to the base year inventory, this model estimates base year vehicle travel, fuel consumption and fuel economy for each vehicle type and the total fleet.
- When applied in the forecasting mode, the Stratified Rate Model first updates the composition and fuel economy of the fleet by one year and then estimates the next year's stratified fleet, vehicle travel, fuel consumption and fuel economy.
- Imbedded in the Stratified Rate Model are submodels which forecast the total number of vehicles by vehicle type, new vehicles, in-migration vehicles, and scrappage of old vehicles and the fuel economy of new vehicles under explicit socioeconomic assumptions.

3. The Statewide Aggregate VMT and VFC Model

- This model accepts the vehicle fleet fuel economy from the Stratified Rate Model and socioeconomic data from the inventory. It estimates next year's statewide total VMT and VFC without regard to vehicle body type. Because the Aggregate Model is more directly linked to socioeconomic variables, the VMT forecasts from the model are used as control totals for the forecast years.

4. A Comparison/Adjustment Model

- This model compares and adjusts the total VMT and VFC from the Stratified Rate Model to match that from the Aggregate Model. As part of the comparison/adjustment process, statewide total diesel fuel is forecasted with a Diesel Fuel Consumption Model, and gasoline fuel is computed as the difference between total fuel and diesel fuel. Following the comparison/adjustment step, future year VMT, VFC, and vehicle fuel economy (VFE) for each vehicle type are then calculated.

The above sequence produces the "next year" forecast. The process is then recursively applied to produce forecasts for each succeeding year in the forecast period.

Statewide VMT from the above process is distributed to the 58 counties and two major road systems (State Highways and all "Other" public roads) as follows:

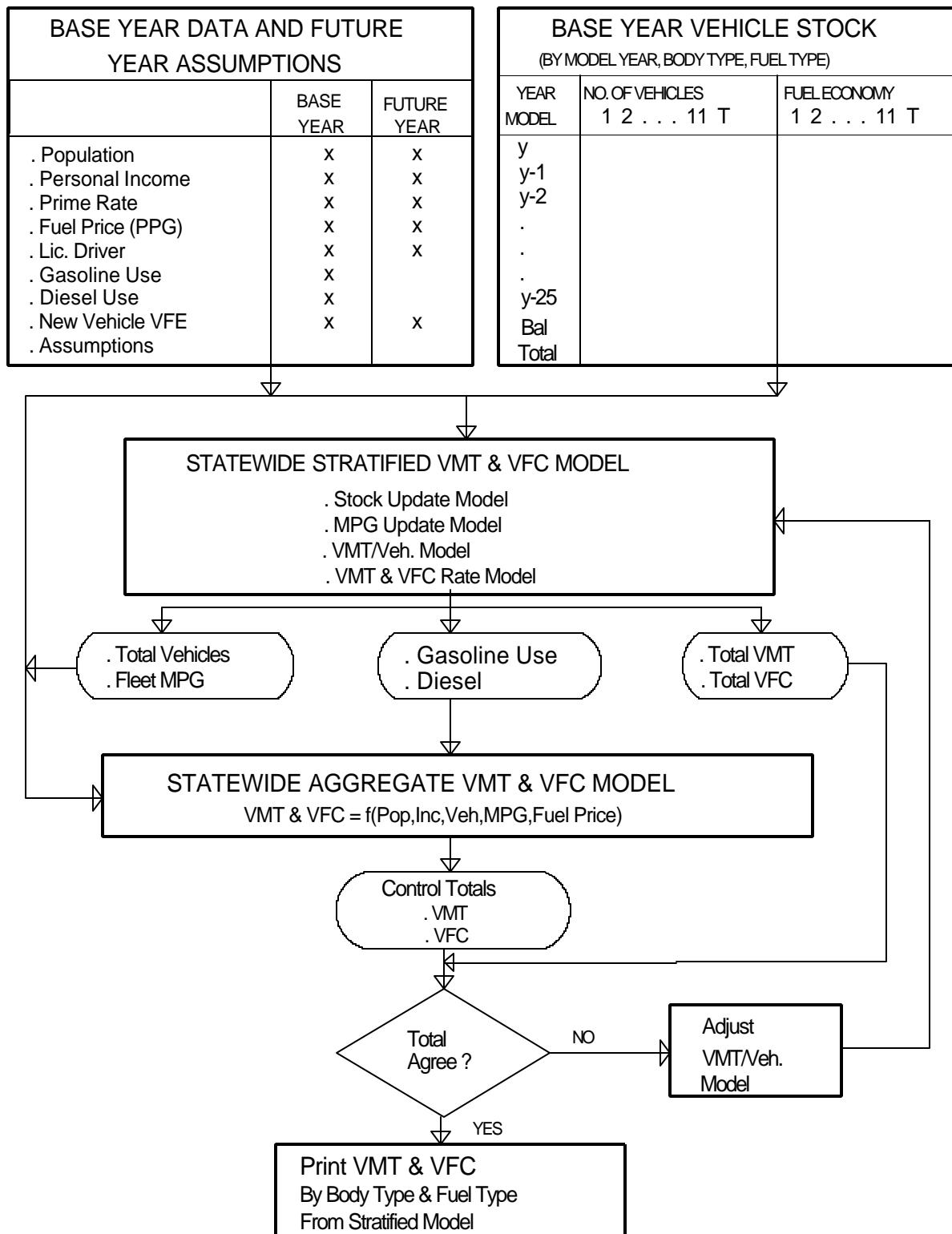
For the base year, county VMT on state highways is obtained directly from the Traffic Operations Program's annual Traffic Accident Surveillance and Analysis System (TASAS) file. County VMT on all other public roads, except that on the local road functional class, is estimated from the annual Highway Performance Monitoring System (HPMS) file. Local road VMT cannot be obtained from either TASAS or HPMS. Therefore, statewide local road VMT is calculated as the difference: statewide total VMT (MVSTAFF) minus state highway VMT (TASAS) and other road VMT (HPMS). Statewide local road VMT is then allocated to each county on the basis of the relative distribution of the quantity, "county automobile registrations times the proportion of local road mileage to the total system mileage".

For future years, the statewide VMT from MVSTAFF is distributed by applying county-specific, annualized growth rates to the base year county estimates described above. The county-specific growth rates are calculated from county population estimates recently published by the Department of Finance. The annualized rates are normalized so that the sum of counties' VMT equals the MVSTAFF statewide VMT.

Statewide VFC is distributed to the 58 counties and the two fuel types, gasoline and diesel, using estimates of county VMT, truck VMT and statewide estimates of vehicle fuel economy.

Figure-1

MOTOR VEHICLE STOCK, TRAVEL AND FUEL FORECASTING PROCESS



IV. FORECAST ASSUMPTIONS

As discussed in the previous section and shown in Figure-1, the MVSTAFF process requires base year estimates and future year projections of a number of socioeconomic variables; and explicit assumptions regarding the fuel economy of the vehicle fleet, by vehicle type. The assumptions made regarding the key variables, that drive the forecasting process, are briefly described below.

A. SOCIOECONOMIC ASSUMPTIONS

Base year (1998) estimates of population and the economic variables were obtained from the California Department of Finance (DOF), the state's official source of such information. Future year population was also obtained from DOF. The Transportation System Information Program developed projections of the economic variables based on the information in the WEFA Group, "U.S. Long-Term Economic Outlook, 3rd Quarter 1999" (Ref. 7) and the "UCLA Anderson Forecast, September 1999" (Ref. 3). The WEFA Group projections represent a "trend/moderate growth" scenario. The MVSTAFF forecasts, therefore, reflect the same scenario imposed on the DOF population projections and the existing legislation regarding current and future taxes on fuel.

The resulting projections, which were used in the forecast, are shown graphically and in tabular form in Figures 2 to 7. A brief discussion of each variable is given below.

1. Population

Population projections used for the years 1998-2020 were the latest data available from DOF (Ref. 4 & 5). These projections are shown in Figure-2. As can be seen, the state's population is projected to continue to increase. The rate increases to a high of 1.71 percent in 2000 and then continues to fall to a low of 1.11 percent in 2011. The rate of increase goes up slightly after 2011.

2. Inflation Assumptions: The U.S. Consumer Price Index

Projections of total personal income and motor vehicle fuel prices are normally made on a current dollar basis. Because the MVSTAFF process operates on a constant dollar basis, these need to be adjusted for inflation by dividing them by projections of the U.S. Consumer Price Index (U.S. CPI). The projections of the U.S. CPI to 2020 are shown in Figure-3.

It can be seen from Figure-3 that the CPI is projected to increase at an average rate of 2.40 percent per year throughout the forecast period.

3. Total Personal Income Per Person

Statewide total personal income per person (IPP) is an important variable in a number of forecasting models used in the MVSTAFF process. For example, it is a major

determinant of new car sales, vehicle ownership and annual miles of travel per person. The 1998 base year income per person was from the California Department of Finance, and the annual percentage growth rates for the future years were derived from the WEFA U.S. Long-Term Economic Outlook, 3rd Quarter 1999 (Ref. 7).

The forecast of statewide total personal income (TPI), in 1967 dollars, is shown in Figure-4, and the forecast of total personal income per person in Figure-5. As can be seen, total personal income, and total personal income per person are expected to increase 3.6 percent and 1.9 percent, respectively, in 1999. Total personal income is projected to increase at an annual average rate of 2.7 percent for the forecast period. The income per person growth rates follow a similar pattern but at a lower rate which average to an annual rate of about 1.3 percent.

4. Fuel Price

Fuel price is one of the most important variables in projecting future vehicle miles of travel and fuel consumption. This is because: (a) it directly and significantly determines the amount of vehicular travel, as shown in the development of the Statewide Aggregate VMT and VFC Model (Ref. 1); (b) over the past twenty years it has had the greatest variability of any of the socioeconomic variables used to forecast VMT and VFC; and (c) it influences the fuel economy of the new vehicle fleet which directly impacts fuel consumption.

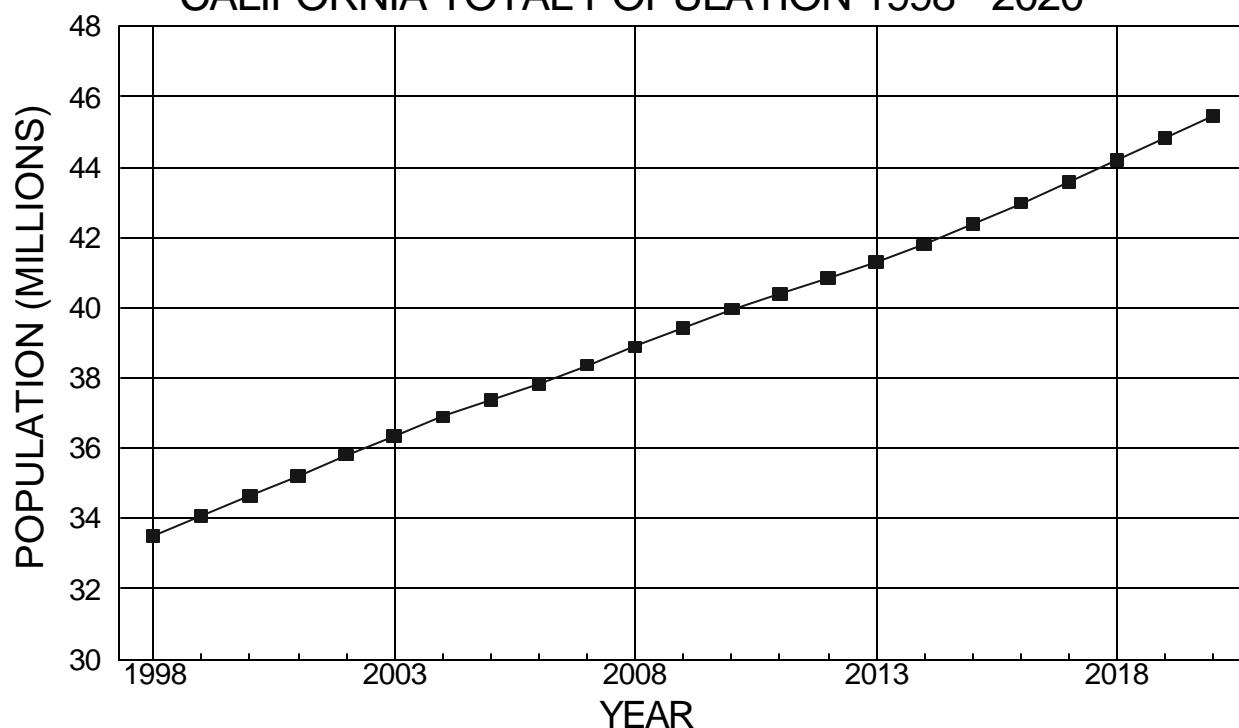
The fuel price variable used in the forecasting process is the price of gasoline, averaged over all grades, and full service and self service sales. The price includes all excise taxes but not sales taxes. Projected gasoline prices in constant 1967 dollars are given in Figure-6. They were estimated using the WEFA long-term gasoline price forecast.

Figure-6 shows the projected fuel prices in constant (1967) dollars. Fuel price is expected to continue to be steady throughout the forecast period. The annual average rate of increase for the total forecast period is slightly over 0.6 percent.

5. Prime Lending Rate

The prime lending rate is one of the variables used to estimate new vehicle sales, which is needed to annually update the vehicle fleet. The prime commercial bank rates for this year's forecast are given in Figure-7. The rate is very steady but decreasing. It drops from the high of 8.3% in 1998 to the low of 7.7% in 2020. The difference is only 0.6% in 22 years.

Figure-2
CALIFORNIA TOTAL POPULATION 1998 - 2020

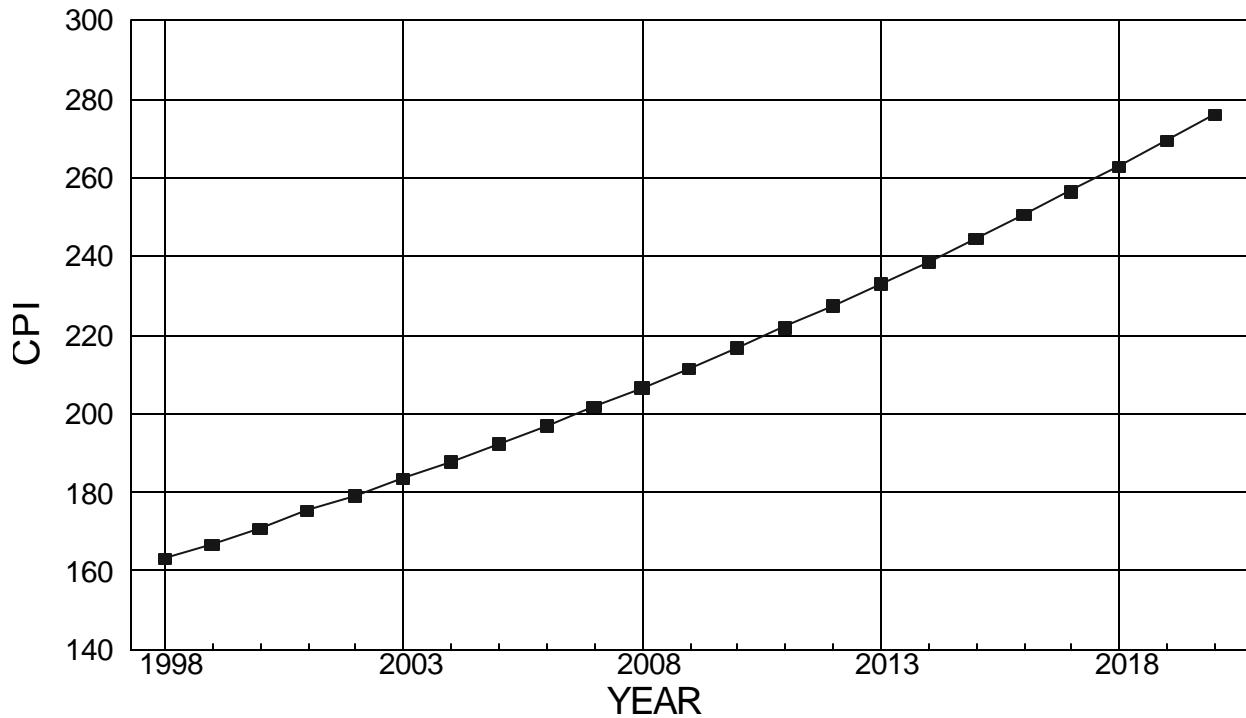


CALIFORNIA TOTAL POPULATION 1998-2020

Year	Population	%-CH
1998	33.506	
1999	34.072	1.689
2000	34.653	1.705
2001	35.233	1.674
2002	35.802	1.615
2003	36.364	1.568
2004	36.900	1.475
2005	37.372	1.281
2006	37.838	1.247
2007	38.364	1.390
2008	38.894	1.380
2009	39.426	1.368
2010	39.958	1.349
2011	40.402	1.113
2012	40.852	1.114
2013	41.314	1.130
2014	41.785	1.139
2015	42.371	1.403
2016	42.972	1.419
2017	43.583	1.420
2018	44.201	1.419
2019	44.824	1.410
2020	45.449	1.393

Population in Millions

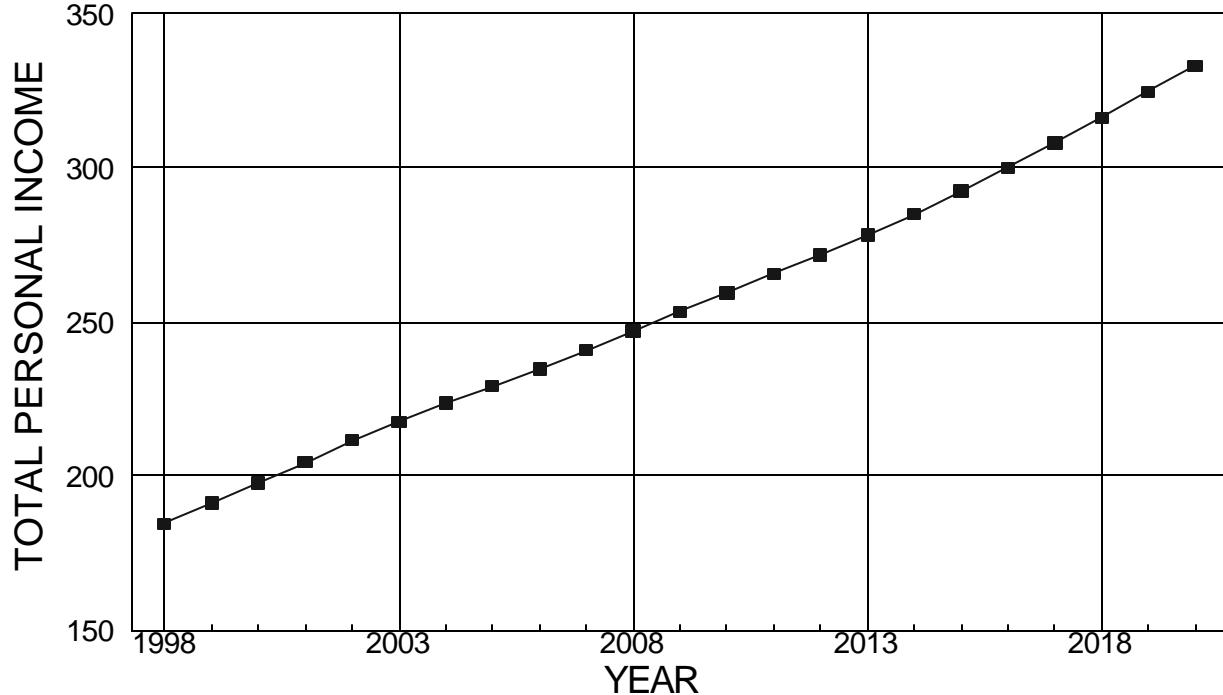
Figure-3
U.S. CONSUMER PRICE INDEX 1998 - 2020



U.S. CONSUMER PRICE INDEX, 1982-1984=100

Year	CPI	%-CH
1998	163.100	
1999	166.700	2.207
2000	170.800	2.460
2001	175.200	2.576
2002	179.200	2.283
2003	183.500	2.400
2004	187.900	2.398
2005	192.400	2.395
2006	197.000	2.391
2007	201.700	2.386
2008	206.600	2.429
2009	211.500	2.372
2010	216.700	2.459
2011	222.000	2.446
2012	227.400	2.432
2013	232.900	2.419
2014	238.600	2.447
2015	244.500	2.473
2016	250.500	2.454
2017	256.600	2.435
2018	262.900	2.455
2019	269.300	2.434
2020	276.000	2.488

Figure-4
CALIFORNIA TOTAL PERSONAL INCOME IN 1967 DOLLARS

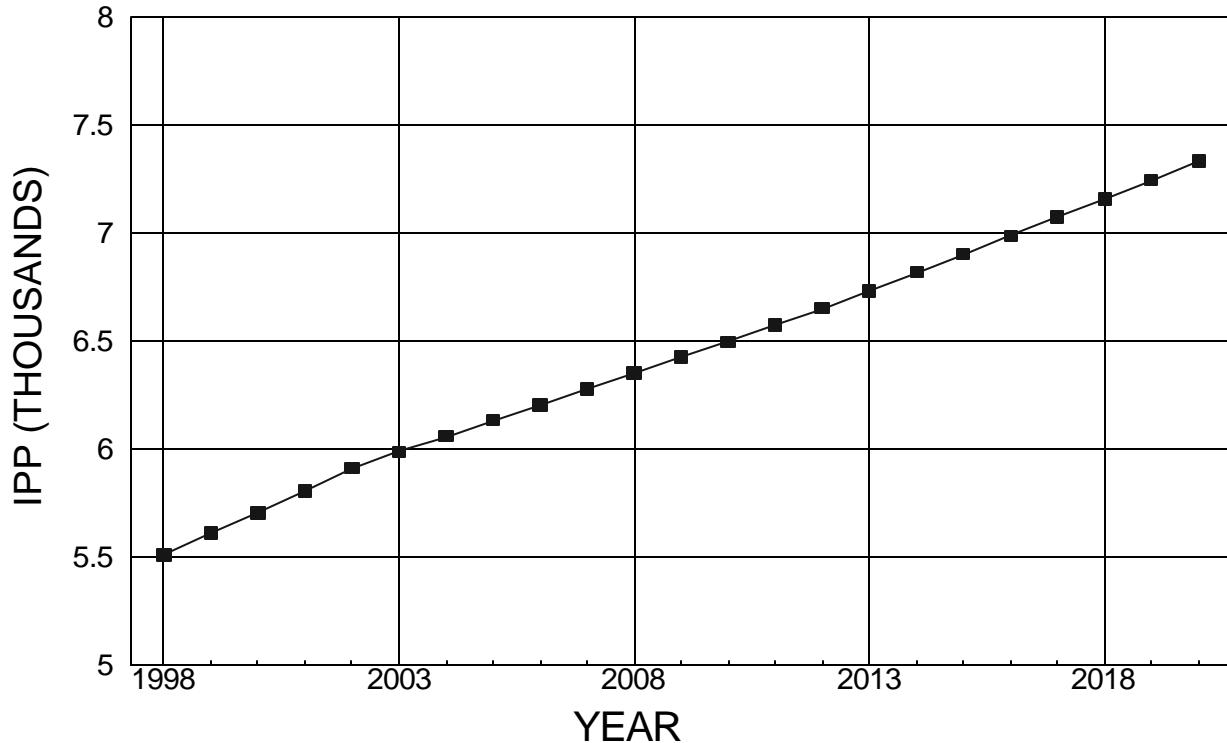


CALIFORNIA TOTAL PERSONAL INCOME

Year	TPI	%-CH
1998	184.558	
1999	191.193	3.595
2000	197.701	3.404
2001	204.518	3.448
2002	211.616	3.470
2003	217.652	2.852
2004	223.578	2.723
2005	229.260	2.542
2006	234.821	2.426
2007	240.945	2.608
2008	247.039	2.529
2009	253.264	2.520
2010	259.565	2.488
2011	265.572	2.314
2012	271.744	2.324
2013	278.215	2.381
2014	284.887	2.398
2015	292.398	2.637
2016	300.155	2.653
2017	308.122	2.654
2018	316.297	2.653
2019	324.659	2.644
2020	333.186	2.626

TPI in Billions (67\$)

Figure-5
CALIFORNIA PERSONAL INCOME PER PERSON in 1967 DOLLARS

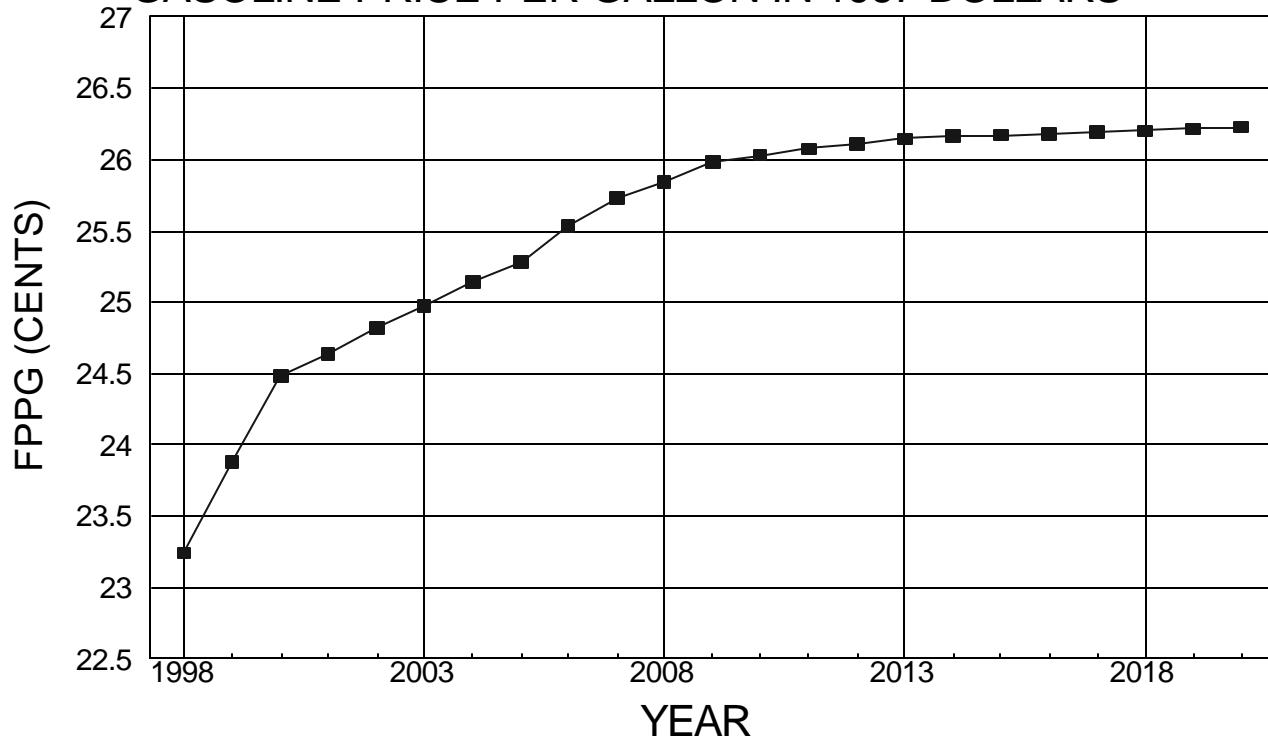


CALIFORNIA PERSONAL INCOME PER PERSON

Year	IPP	%-CH
1998	5.508	
1999	5.611	1.874
2000	5.705	1.671
2001	5.805	1.745
2002	5.911	1.826
2003	5.985	1.265
2004	6.059	1.229
2005	6.134	1.245
2006	6.206	1.165
2007	6.280	1.201
2008	6.352	1.134
2009	6.424	1.136
2010	6.496	1.124
2011	6.573	1.188
2012	6.652	1.197
2013	6.734	1.237
2014	6.818	1.245
2015	6.901	1.217
2016	6.985	1.217
2017	7.070	1.217
2018	7.156	1.217
2019	7.243	1.216
2020	7.331	1.217

IPP in Thousands (67\$)

Figure-6
GASOLINE PRICE PER GALLON IN 1967 DOLLARS

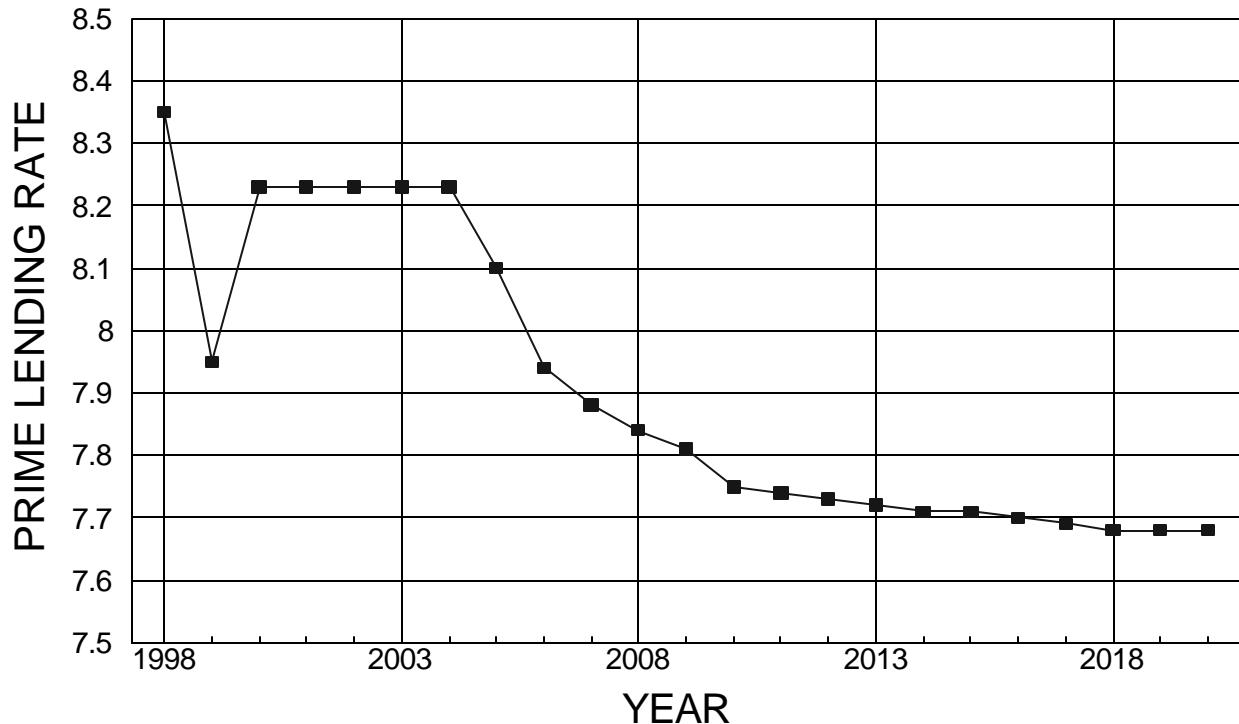


GASOLINE PRICE PER GALLON IN 1967 DOLLARS

Year	Price	%-CH
1998	23.244	
1999	23.881	2.741
2000	24.484	2.525
2001	24.639	0.633
2002	24.817	0.722
2003	24.972	0.625
2004	25.139	0.669
2005	25.283	0.573
2006	25.536	1.001
2007	25.731	0.764
2008	25.844	0.439
2009	25.984	0.542
2010	26.028	0.169
2011	26.072	0.169
2012	26.111	0.150
2013	26.144	0.126
2014	26.164	0.077
2015	26.170	0.023
2016	26.178	0.031
2017	26.192	0.053
2018	26.202	0.038
2019	26.213	0.042
2020	26.225	0.046

Price in Cents (67\$)

Figure-7
PRIME LENDING RATE 1998 - 2020



PRIME LENDING RATE 1998-2020

Year	Prime	%-CH
1998	8.350	
1999	7.950	-4.790
2000	8.230	3.522
2001	8.230	0.000
2002	8.230	0.000
2003	8.230	0.000
2004	8.230	0.000
2005	8.100	-1.580
2006	7.940	-1.975
2007	7.880	-0.756
2008	7.840	-0.508
2009	7.810	-0.383
2010	7.750	-0.768
2011	7.740	-0.129
2012	7.730	-0.129
2013	7.720	-0.129
2014	7.710	-0.130
2015	7.710	0.000
2016	7.700	-0.130
2017	7.690	-0.130
2018	7.680	-0.130
2019	7.680	0.000
2020	7.680	0.000

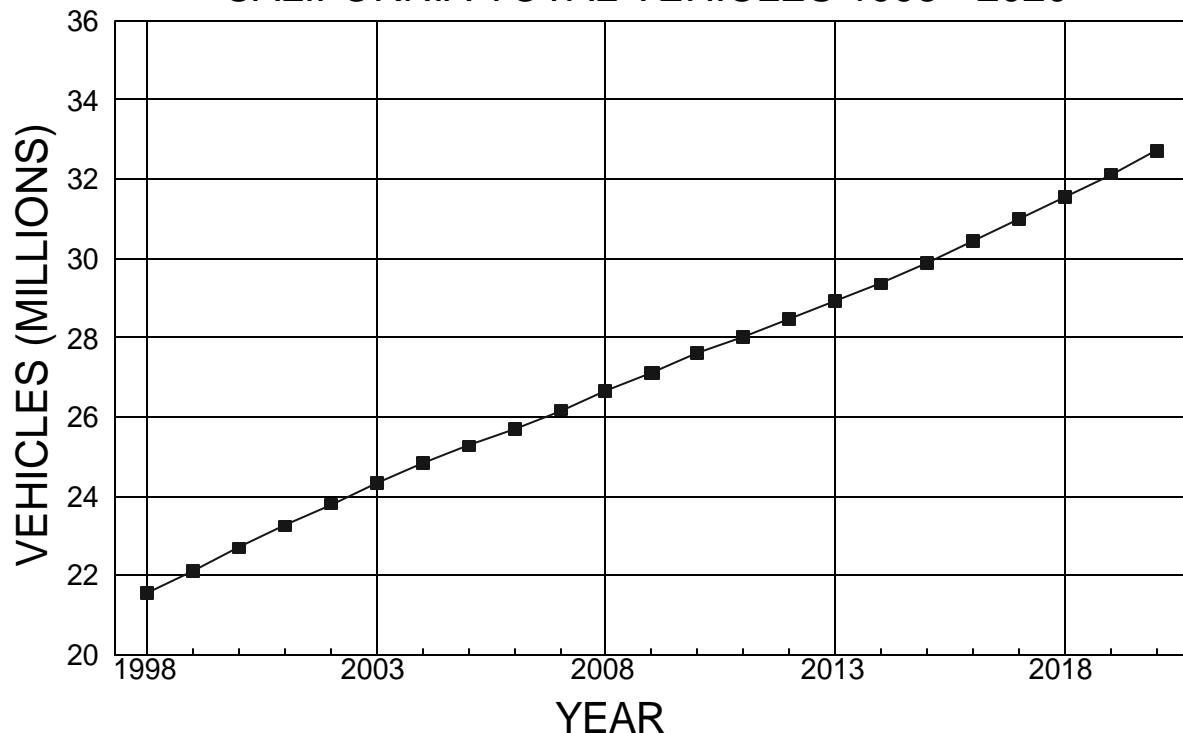
B. NEW VEHICLE FUEL ECONOMY

The MVSTAFF process requires explicit assumptions of the fuel economy of new vehicles entering the fleet each year. The recent update of the MPG model using the 1994 to 1998 Department of Motor Vehicles' vehicle population profile for California, and the EPA Gas Mileage Guides showed that the light duty vehicle fleets (autos and trucks of gross vehicle weight less than 10,000 pounds) meet the national Corporate Average Fuel Economy (CAFE) standards. Because of the fact that the CAFE standard has not been changed, it was assumed the new light duty fleets would continue to have the same fuel economy into the future.

For the medium truck fleets (gross vehicle weight from 10,001 to 33,000 lbs.) and heavy-duty truck fleets (gross vehicle weight greater than 33,000 lbs.), it was reasoned that the manufacturers and buyers are aware of the significance of the fuel operating cost to the trucking industry and that the long-term outlook is for higher fuel prices. Hence, there will be a continuous need and effort to improve truck fuel economy so that in the long run, fuel operating costs will not increase beyond current levels. Using the vehicle fuel economy values from the 1977, 1982, 1987 and 1992 Truck Inventory and Use Survey (TIUS) Reports (Ref. 6) an average annual fleet MPG improvement was calculated for each vehicle and fuel type. These rates of improvement were assumed to continue in the future.

Fuel economy of motorcycles was assumed to be a constant on-road value of 50.0 miles per gallon.

Figure-8
CALIFORNIA TOTAL VEHICLES 1998 - 2020



CALIFORNIA TOTAL VEHICLES 1998-2020

Year	Vehicles	%-CH
1998	21.550	
1999	22.126	2.673
2000	22.690	2.549
2001	23.251	2.472
2002	23.797	2.348
2003	24.332	2.248
2004	24.839	2.084
2005	25.273	1.747
2006	25.703	1.701
2007	26.172	1.825
2008	26.652	1.834
2009	27.127	1.782
2010	27.610	1.781
2011	28.036	1.543
2012	28.469	1.544
2013	28.915	1.567
2014	29.366	1.560
2015	29.904	1.832
2016	30.450	1.826
2017	31.005	1.823
2018	31.567	1.813
2019	32.134	1.796
2020	32.704	1.774

Vehicles in Millions

V. FORECAST RESULTS

A. Motor Vehicle Stock

The total vehicle figures used in this report are the average number of currently registered motor vehicles in operation in each calendar year. The estimates of the base year and the forecast years are provided in Figure-8. Values in the figure represent all vehicle body types (autos, trucks and motorcycles) and fuel types (gasoline and diesel).

Total vehicles are expected to increase by 2.7% in 1999. However, the long-term forecast is for vehicles to continue to increase, but at declining rates, as population growth slows down and vehicle ownership reaches saturation levels.

Total vehicles were stratified into body type, fuel type, and model year categories with the vehicle stock update model. Table-1 gives the forecasted number of vehicles in each body type and fuel type category for the years 1998 to 2012, 2015 and 2020.

Figure-9 graphically shows the estimates of total gasoline plus diesel vehicles, by body type, for the years 1998 to 2020. The plots correspond to the data given in the upper part of Table-1. Although motorcycles are not shown as a separate entry in the figure, they are included in the "Total" graph.

TABLE-1: CALIFORNIA TOTAL VEHICLES (MILLIONS)

VEH. TYPE	CAL. YEAR	AUTOS	TRK1	TRK2	BODY TYPE TRK3	TRK4	M.C.	TOTAL
T O T A L	1998	15.652	3.225	1.843	0.348	0.116	0.365	21.550
	1999	16.046	3.299	1.910	0.362	0.125	0.384	22.126
	2000	16.450	3.394	1.964	0.369	0.127	0.385	22.690
	2001	16.853	3.488	2.019	0.376	0.130	0.386	23.251
	2002	17.246	3.579	2.071	0.383	0.132	0.386	23.797
	2003	17.631	3.667	2.123	0.390	0.134	0.386	24.332
	2004	17.997	3.751	2.171	0.397	0.136	0.387	24.839
	2005	18.310	3.823	2.213	0.402	0.138	0.387	25.273
	2006	18.621	3.894	2.254	0.407	0.140	0.388	25.703
	2007	18.960	3.970	2.298	0.414	0.142	0.388	26.172
	2008	19.309	4.048	2.343	0.420	0.144	0.388	26.652
	2009	19.654	4.125	2.387	0.426	0.146	0.389	27.127
	2010	20.006	4.202	2.432	0.433	0.148	0.389	27.610
	2011	20.316	4.271	2.472	0.439	0.150	0.389	28.036
	2012	20.632	4.340	2.512	0.445	0.152	0.389	28.469
	2015	21.680	4.568	2.644	0.465	0.158	0.389	29.904
	2020	23.731	5.009	2.899	0.506	0.171	0.389	32.704
G A S O L I N E	1998	15.493	3.203	1.686	0.141	0.001	0.365	20.890
	1999	15.892	3.280	1.756	0.147	0.001	0.384	21.460
	2000	16.307	3.376	1.805	0.147	0.001	0.385	22.021
	2001	16.721	3.471	1.854	0.147	0.001	0.386	22.580
	2002	17.124	3.564	1.902	0.147	0.001	0.386	23.123
	2003	17.518	3.653	1.949	0.147	0.001	0.386	23.655
	2004	17.892	3.738	1.993	0.148	0.001	0.387	24.159
	2005	18.213	3.811	2.032	0.148	0.001	0.387	24.592
	2006	18.531	3.883	2.070	0.148	0.001	0.388	25.021
	2007	18.877	3.960	2.111	0.149	0.001	0.388	25.487
	2008	19.231	4.039	2.153	0.150	0.001	0.388	25.962
	2009	19.581	4.117	2.194	0.152	0.001	0.389	26.432
	2010	19.936	4.195	2.236	0.153	0.001	0.389	26.909
	2011	20.250	4.264	2.272	0.154	0.001	0.389	27.331
	2012	20.568	4.334	2.310	0.156	0.001	0.389	27.758
	2015	21.623	4.563	2.432	0.161	0.001	0.389	29.169
	2020	23.678	5.005	2.667	0.174	0.002	0.389	31.914
D I S E L	1998	0.159	0.022	0.157	0.207	0.115	0.000	0.659
	1999	0.155	0.020	0.154	0.215	0.123	0.000	0.667
	2000	0.143	0.018	0.159	0.223	0.126	0.000	0.669
	2001	0.132	0.017	0.165	0.230	0.128	0.000	0.671
	2002	0.122	0.015	0.169	0.236	0.131	0.000	0.674
	2003	0.113	0.014	0.174	0.243	0.133	0.000	0.677
	2004	0.105	0.013	0.178	0.249	0.135	0.000	0.680
	2005	0.097	0.012	0.181	0.254	0.137	0.000	0.681
	2006	0.090	0.011	0.184	0.259	0.138	0.000	0.682
	2007	0.084	0.010	0.187	0.264	0.140	0.000	0.685
	2008	0.078	0.009	0.190	0.270	0.142	0.000	0.690
	2009	0.074	0.008	0.193	0.275	0.145	0.000	0.695
	2010	0.070	0.007	0.197	0.280	0.147	0.000	0.700
	2011	0.066	0.007	0.199	0.285	0.148	0.000	0.705
	2012	0.063	0.006	0.202	0.289	0.150	0.000	0.711
	2015	0.057	0.005	0.212	0.304	0.157	0.000	0.734
	2020	0.053	0.003	0.232	0.332	0.170	0.000	0.790

Figure-9
CALIFORNIA TOTAL VEHICLES BY BODY TYPE

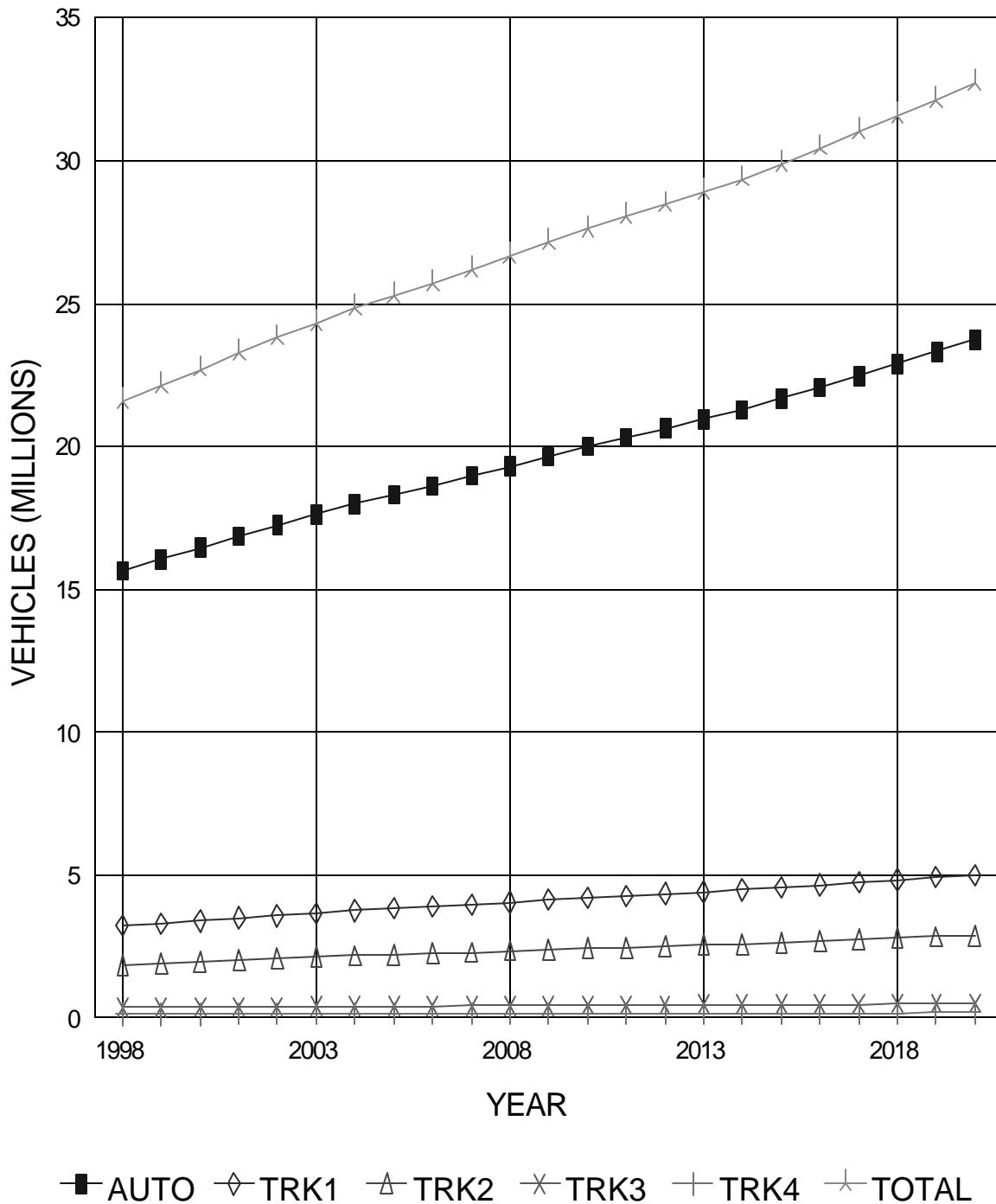
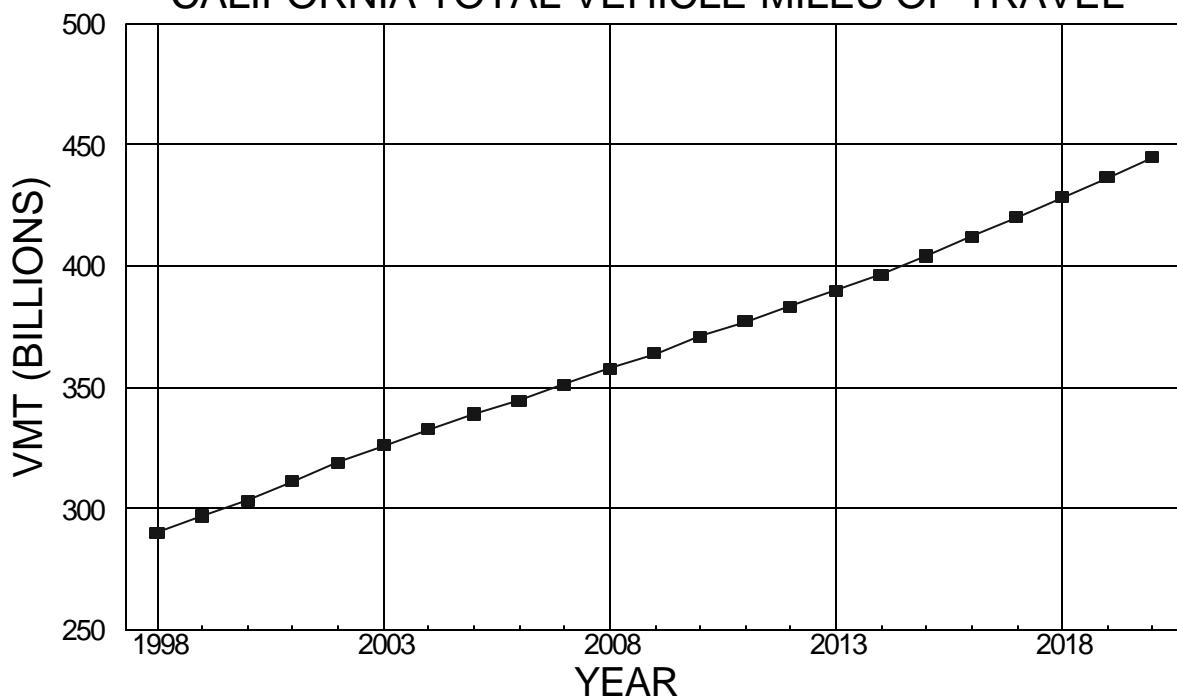


Figure-10
CALIFORNIA TOTAL VEHICLE MILES OF TRAVEL



CALIFORNIA TOTAL VEHICLE MILES OF TRAVEL

Year	VMT	%CH
1998	290.481	
1999	297.166	2.302
2000	303.505	2.133
2001	311.413	2.606
2002	319.174	2.492
2003	326.178	2.194
2004	332.791	2.027
2005	339.108	1.898
2006	344.752	1.664
2007	351.128	1.849
2008	357.705	1.873
2009	364.242	1.827
2010	371.060	1.872
2011	377.225	1.661
2012	383.477	1.657
2013	389.923	1.681
2014	396.535	1.696
2015	404.264	1.949
2016	412.179	1.958
2017	420.140	1.931
2018	428.311	1.945
2019	436.528	1.918
2020	444.787	1.892

VMT in Billion Miles

B. Vehicle Miles of Travel

Statewide total vehicle miles of travel projected by the forecast are given in Figure-10. The values in the figure represent travel by all vehicle body types and fuel types on all public roads.

The 1998 vehicle miles of travel (VMT) estimate of 290.481 is based on the 1998 on-road fuel consumption estimate from the Board of Equalization's sales data, and the 1998 on-road vehicle fleet fuel economy from the MVSTAFF Stratified Rate Model. Annual statewide VMT is expected to increase 2.3 percent in 1999 and 2.1 percent in 2000. The long-term forecast is for VMT to continue to grow, but at significantly lower rates than it has in the past. The slow down is predicated on lower statewide population and economic growth. For air quality conformity analysis purposes the annual VMT in 5-year increments from 1990 are listed in Table-1.1.

Forecasts of statewide total VMT stratified by six body types and two fuel types are given in Table-2. Graphs of VMT by body type are given in Figure-11. The graphs correspond to the data in the upper part of Table-2. Although VMT by motorcycles is not shown as a separate entry in the figure, it is included in the "Total VMT" graph.

Table-1.1

Total Statewide VMT and Five-year Percent Change

YEAR	VMT	%-CH
1990	259.003	
1995	276.968	6.936
2000	303.505	9.581
2005	339.108	11.731
2010	371.060	9.422
2015	404.264	8.948
2020	444.787	10.024

VMT in Billion Miles

Table-2 CALIFORNIA TOTAL VEHICLE MILES OF TRAVEL (BILLIONS)

VEH. CAL. TYPE	YEAR	AUTOS	TRK1	TRK2	BODY TYPE TRK3	TRK4	M.C.	TOTAL
T O T A L	1998	205.996	42.767	24.907	8.740	7.267	0.804	290.481
	1999	213.254	42.117	24.625	8.814	7.511	0.845	297.166
	2000	217.149	42.906	25.752	9.056	7.795	0.848	303.505
	2001	222.509	43.905	26.831	9.274	8.046	0.848	311.413
	2002	227.752	44.896	27.878	9.496	8.304	0.849	319.174
	2003	232.523	45.748	28.855	9.674	8.527	0.850	326.178
	2004	236.952	46.613	29.789	9.842	8.743	0.851	332.791
	2005	241.194	47.458	30.658	9.999	8.947	0.852	339.108
	2006	244.971	48.220	31.413	10.151	9.144	0.853	344.752
	2007	249.319	49.092	32.182	10.323	9.358	0.854	351.128
	2008	253.854	50.004	32.932	10.491	9.569	0.854	357.705
	2009	258.377	50.915	33.647	10.666	9.782	0.855	364.242
	2010	263.134	51.876	34.361	10.840	9.994	0.855	371.060
	2011	267.430	52.761	35.000	10.989	10.189	0.855	377.225
	2012	271.798	53.668	35.621	11.142	10.392	0.856	383.477
	2015	286.464	56.644	37.561	11.686	11.053	0.856	404.264
	2020	315.469	62.208	41.145	12.876	12.233	0.856	444.787
G A S O L I N E	1998	204.429	42.604	22.625	1.862	0.011	0.804	272.334
	1999	211.737	41.983	22.457	1.724	0.010	0.845	278.755
	2000	215.792	42.795	23.515	1.772	0.011	0.848	284.734
	2001	221.286	43.815	24.535	1.817	0.013	0.848	292.314
	2002	226.642	44.823	25.525	1.863	0.015	0.849	299.717
	2003	231.512	45.690	26.450	1.901	0.016	0.850	306.419
	2004	236.026	46.567	27.332	1.937	0.018	0.851	312.731
	2005	240.339	47.422	28.152	1.972	0.019	0.852	318.756
	2006	244.177	48.192	28.863	2.007	0.021	0.853	324.113
	2007	248.572	49.070	29.584	2.046	0.022	0.854	330.148
	2008	253.144	49.985	30.282	2.085	0.024	0.854	336.374
	2009	257.694	50.898	30.946	2.125	0.025	0.855	342.544
	2010	262.473	51.861	31.607	2.166	0.027	0.855	348.989
	2011	266.787	52.748	32.197	2.203	0.028	0.855	354.818
	2012	271.168	53.655	32.770	2.240	0.029	0.856	360.719
	2015	285.854	56.634	34.556	2.366	0.032	0.856	380.298
	2020	314.849	62.201	37.854	2.621	0.036	0.856	418.417
D I E S E L	1998	1.568	0.163	2.282	6.878	7.256	0.000	18.147
	1999	1.517	0.134	2.168	7.090	7.501	0.000	18.411
	2000	1.356	0.110	2.237	7.284	7.784	0.000	18.771
	2001	1.222	0.090	2.296	7.458	8.033	0.000	19.099
	2002	1.109	0.073	2.353	7.633	8.289	0.000	19.457
	2003	1.011	0.058	2.406	7.774	8.511	0.000	19.759
	2004	0.927	0.046	2.457	7.905	8.725	0.000	20.061
	2005	0.855	0.036	2.506	8.027	8.928	0.000	20.351
	2006	0.794	0.028	2.550	8.144	9.123	0.000	20.639
	2007	0.747	0.023	2.599	8.276	9.336	0.000	20.980
	2008	0.711	0.019	2.649	8.406	9.545	0.000	21.330
	2009	0.682	0.017	2.700	8.542	9.757	0.000	21.697
	2010	0.661	0.015	2.754	8.674	9.968	0.000	22.071
	2011	0.643	0.014	2.802	8.786	10.161	0.000	22.407
	2012	0.630	0.012	2.851	8.902	10.363	0.000	22.759
	2015	0.610	0.010	3.004	9.321	11.021	0.000	23.966
	2020	0.620	0.007	3.292	10.254	12.197	0.000	26.370

Figure-11
CALIFORNIA VEHICLE MILES OF TRAVEL BY BODY TYPE

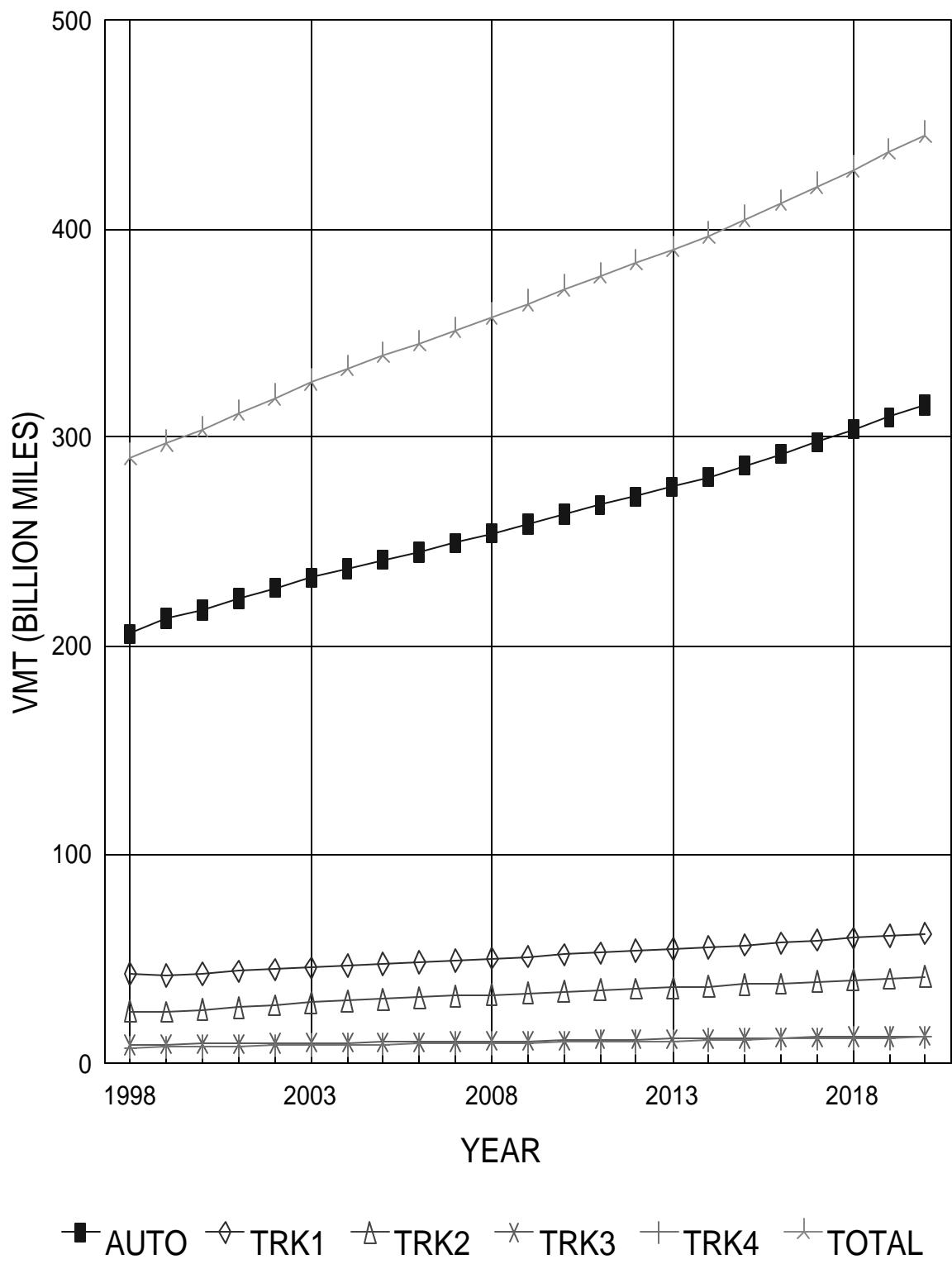
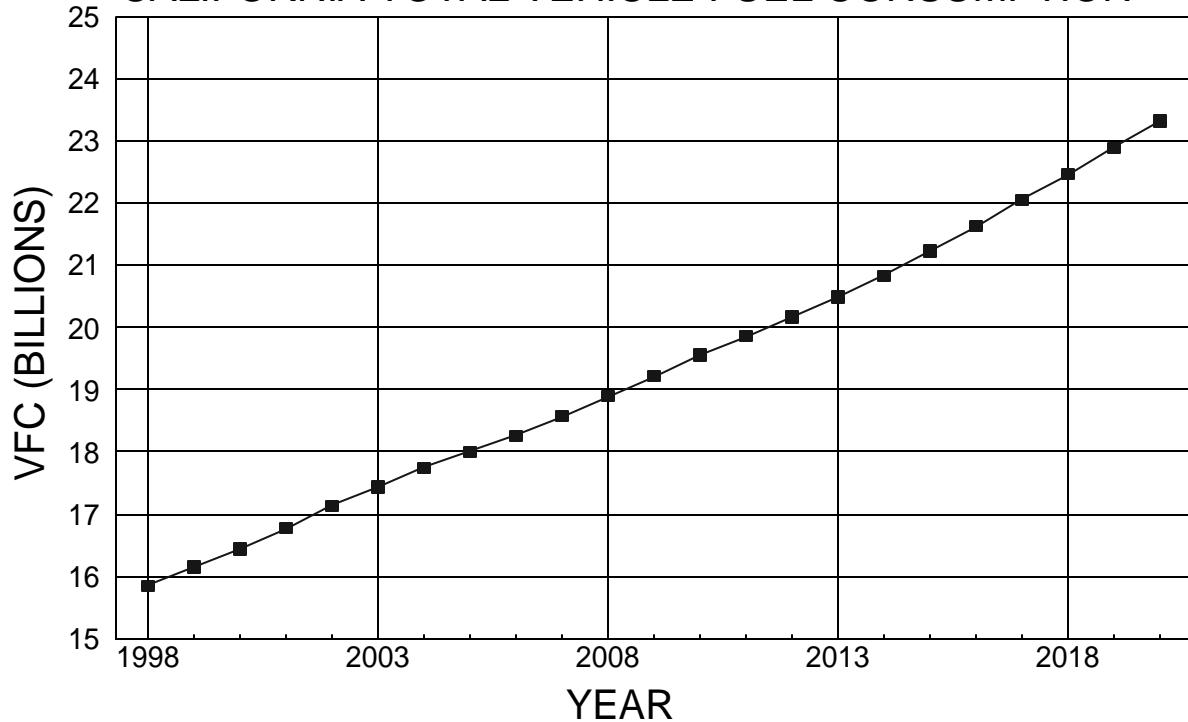


Figure-12
CALIFORNIA TOTAL VEHICLE FUEL CONSUMPTION



CALIFORNIA TOTAL VEHICLE FUEL CONSUMPTION

Year	VFC	%-CH
1998	15.850	
1999	16.145	1.861
2000	16.441	1.833
2001	16.776	2.038
2002	17.139	2.164
2003	17.441	1.762
2004	17.751	1.777
2005	18.004	1.425
2006	18.263	1.439
2007	18.573	1.697
2008	18.895	1.734
2009	19.217	1.704
2010	19.557	1.769
2011	19.859	1.544
2012	20.169	1.561
2013	20.496	1.621
2014	20.832	1.639
2015	21.228	1.901
2016	21.631	1.898
2017	22.054	1.956
2018	22.465	1.864
2019	22.892	1.901
2020	23.317	1.857

VFC in Billion Gallons

C. Vehicle Fuel Consumption

Statewide total on-road fuel consumption projected by the forecast is given in Figure-12. The values represent total gasoline and diesel fuel used on all public roads. The base year (1998) values are estimates using Board of Equalization data. Forecasts beyond 1998 use the MVSTAFF process with the 1998 estimate as a base.

As can be seen from Figure-12, on-road fuel consumption is expected to increase 1.86% in 1999. Annual fuel consumption by vehicle type and fuel type for each year of the forecast is given in Table-3. Total fuel consumption is expected to increase for autos and all types of trucks. Diesel fuel consumption for autos and light trucks are decreasing because the numbers of these total vehicles are projected to decrease.

Figure-13 graphs the annual total fuel consumption of the vehicle fleet by body type for years 1998 to 2020. The graphs correspond to the data given in the upper part of Table-3. Although motorcycle fuel consumption is not shown as a separate entry in the figure, it is included in the "Total" graph.

Table-3: CALIFORNIA TOTAL VEHICLE FUEL CONSUMPTION (BILLIONS)

VEH. CAL. TYPE	CAL. YEAR	AUTOS	TRK1	TRK2	BODY TYPE TRK3	TRK4	M.C.	TOTAL
T O T A L	1998	9.318	2.279	1.824	1.137	1.277	0.016	15.850
	1999	9.642	2.251	1.785	1.138	1.312	0.017	16.145
	2000	9.776	2.292	1.839	1.163	1.353	0.017	16.441
	2001	9.957	2.335	1.892	1.185	1.388	0.017	16.776
	2002	10.161	2.381	1.948	1.208	1.424	0.017	17.139
	2003	10.321	2.421	2.000	1.226	1.455	0.017	17.441
	2004	10.492	2.464	2.052	1.243	1.483	0.017	17.751
	2005	10.617	2.502	2.099	1.259	1.510	0.017	18.004
	2006	10.756	2.539	2.141	1.274	1.536	0.017	18.263
	2007	10.933	2.581	2.185	1.292	1.565	0.017	18.573
	2008	11.119	2.626	2.230	1.310	1.593	0.017	18.895
	2009	11.306	2.672	2.273	1.329	1.621	0.017	19.217
	2010	11.506	2.720	2.316	1.347	1.650	0.017	19.557
	2011	11.683	2.764	2.356	1.363	1.675	0.017	19.859
	2012	11.866	2.810	2.396	1.379	1.702	0.017	20.169
	2015	12.497	2.963	2.521	1.441	1.790	0.017	21.228
	2020	13.763	3.249	2.759	1.579	1.951	0.017	23.317
G A S O L I N E	1998	9.260	2.272	1.699	0.263	0.002	0.016	13.511
	1999	9.586	2.246	1.666	0.242	0.002	0.017	13.758
	2000	9.726	2.287	1.715	0.247	0.002	0.017	13.995
	2001	9.912	2.332	1.764	0.252	0.002	0.017	14.279
	2002	10.120	2.378	1.816	0.257	0.003	0.017	14.590
	2003	10.284	2.419	1.865	0.261	0.003	0.017	14.848
	2004	10.458	2.462	1.914	0.264	0.003	0.017	15.118
	2005	10.586	2.500	1.957	0.268	0.003	0.017	15.331
	2006	10.727	2.538	1.997	0.271	0.004	0.017	15.553
	2007	10.906	2.580	2.037	0.276	0.004	0.017	15.820
	2008	11.094	2.625	2.079	0.280	0.004	0.017	16.099
	2009	11.282	2.671	2.118	0.284	0.004	0.017	16.377
	2010	11.483	2.720	2.159	0.288	0.005	0.017	16.672
	2011	11.660	2.763	2.196	0.292	0.005	0.017	16.934
	2012	11.843	2.810	2.233	0.296	0.005	0.017	17.203
	2015	12.476	2.962	2.349	0.310	0.005	0.017	18.120
	2020	13.741	3.249	2.570	0.340	0.006	0.017	19.923
D I E S E L	1998	0.058	0.007	0.125	0.874	1.275	0.000	2.339
	1999	0.056	0.006	0.119	0.896	1.310	0.000	2.387
	2000	0.050	0.005	0.124	0.916	1.351	0.000	2.446
	2001	0.045	0.004	0.128	0.933	1.386	0.000	2.496
	2002	0.040	0.003	0.132	0.951	1.422	0.000	2.549
	2003	0.037	0.002	0.135	0.966	1.452	0.000	2.593
	2004	0.034	0.002	0.139	0.978	1.480	0.000	2.633
	2005	0.031	0.002	0.142	0.991	1.507	0.000	2.673
	2006	0.029	0.001	0.145	1.002	1.532	0.000	2.709
	2007	0.027	0.001	0.148	1.016	1.561	0.000	2.753
	2008	0.025	0.001	0.151	1.030	1.589	0.000	2.796
	2009	0.024	0.001	0.154	1.045	1.617	0.000	2.840
	2010	0.023	0.001	0.157	1.059	1.645	0.000	2.885
	2011	0.023	0.001	0.160	1.071	1.670	0.000	2.925
	2012	0.023	0.001	0.163	1.083	1.697	0.000	2.966
	2015	0.021	0.000	0.172	1.130	1.784	0.000	3.108
	2020	0.022	0.000	0.188	1.239	1.945	0.000	3.394

Figure-13
CALIFORNIA VEHICLE FUEL CONSUMPTION BY BODY TYPE

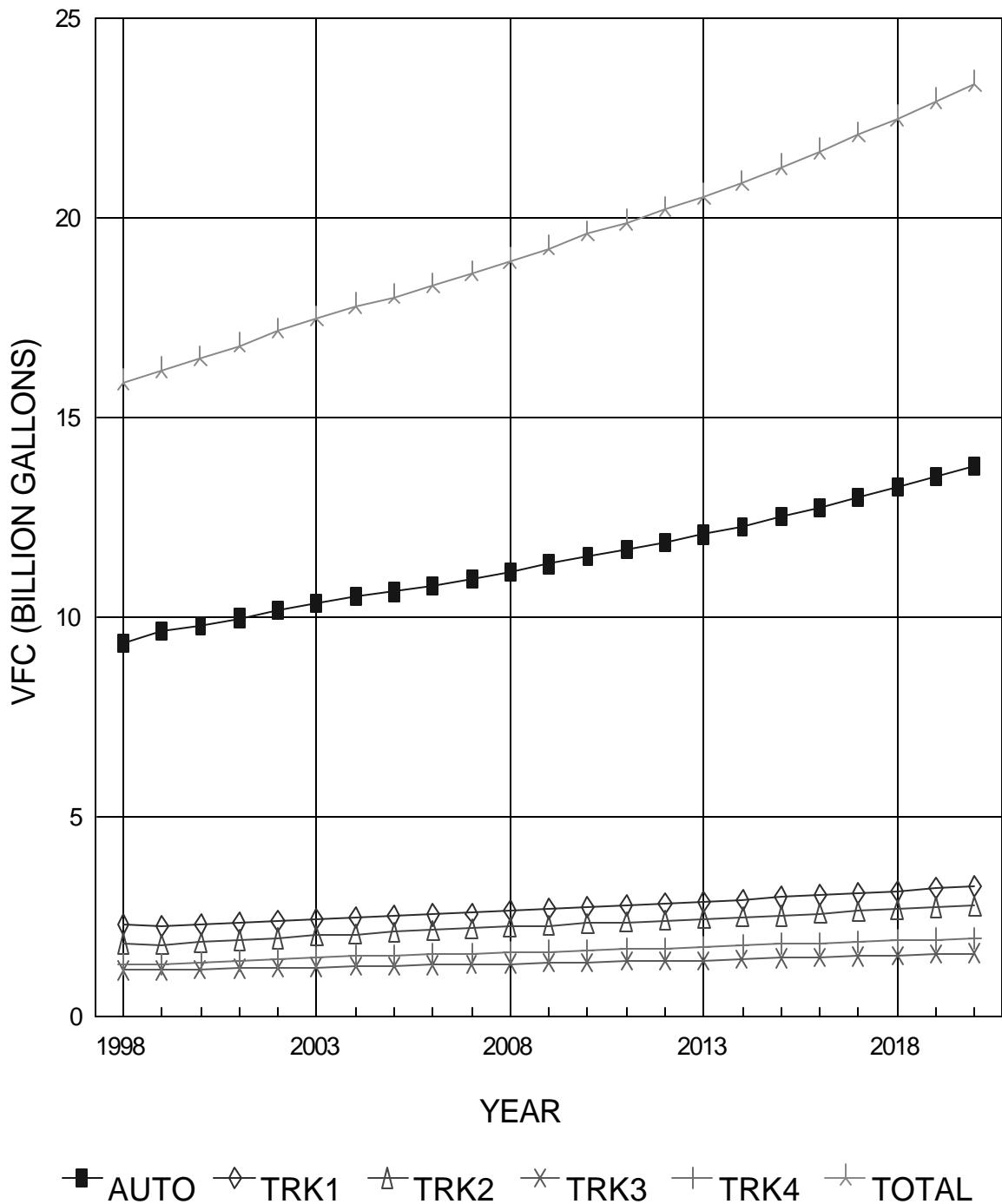
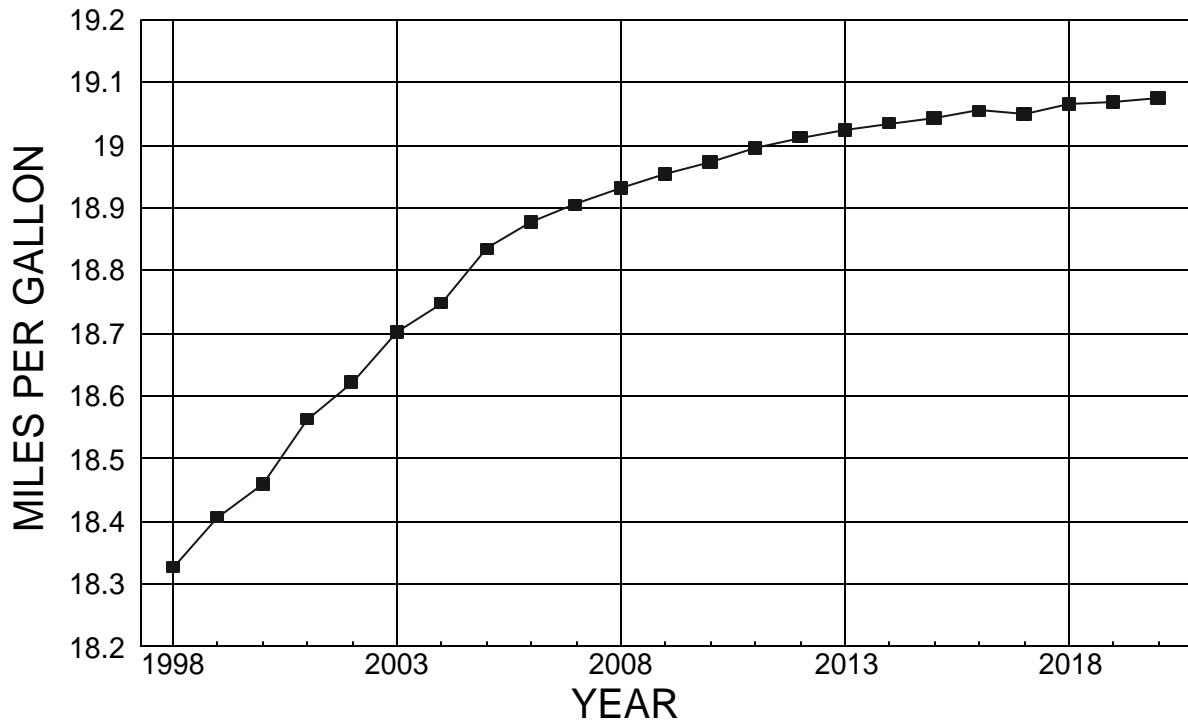


Figure-14
CALIFORNIA TOTAL VEHICLE FLEET FUEL ECONOMY



CALIFORNIA TOTAL VEHICLE FLEET FUEL ECONOMY

Year	MPG	%-CH
1998	18.327	
1999	18.406	0.431
2000	18.460	0.293
2001	18.563	0.558
2002	18.623	0.323
2003	18.702	0.424
2004	18.748	0.246
2005	18.835	0.464
2006	18.877	0.223
2007	18.905	0.148
2008	18.932	0.143
2009	18.954	0.116
2010	18.973	0.100
2011	18.996	0.121
2012	19.013	0.089
2013	19.025	0.063
2014	19.035	0.053
2015	19.044	0.047
2016	19.055	0.058
2017	19.050	-0.026
2018	19.066	0.084
2019	19.069	0.016
2020	19.076	0.037

MPG: Miles Per Gallon

D. Vehicle Fuel Economy

Forecasts of the total fleet on-road fuel economy are given in Figure-14. The results are a direct output of the Stratified Rate Model which computes the harmonic average fuel economy by weighting the number of vehicles in each stratum by the annual miles of travel and fuel economy of that stratum.

As can be seen from Figure-14, total fleet fuel economy is expected to improve slightly throughout the forecast period. This is the result of the assumption that the new car fleet fuel economy will remain at 27.5 miles per gallon, replacing the older and lower fuel efficiency vehicles.

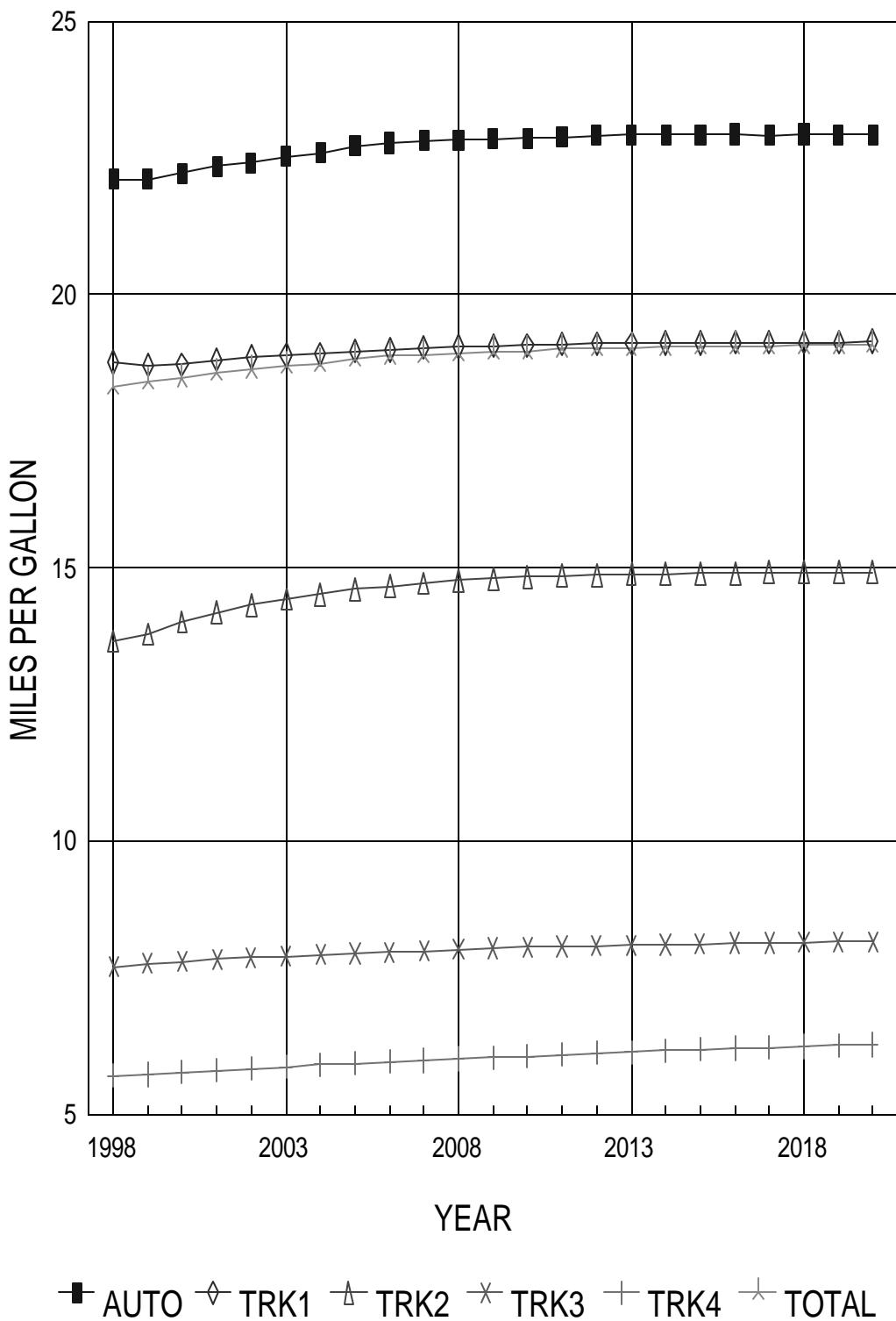
Fuel economies of the fleet, stratified by body type and fuel type for each year of the forecast, are given in Table-4. Vehicle fuel economy is projected to continuously improve for all strata of vehicles. The greatest improvements are being projected for the heavy trucks. Fuel economy of year 2020 automobile fleet will be slightly (3.69 percent) better than it was in 1998; while the total vehicle fleet fuel economy will be only 4.09 percent better than it was in 1998.

Figure-15 graphs the fuel economy of the vehicle fleet stratified by body type for the years 1998 to 2020. The graphs correspond to the data given in the upper part of Table-4. Although the fuel economy of motorcycles (assumed to be a constant value of 50.0 miles per gallon) is not shown in the figure, its effect is included in the "Total" graph.

Table-4: CALIFORNIA TOTAL VEHICLE FLEET FUEL ECONOMY

VEH. CAL. TYPE YEAR	AUTOS	TRK1	TRK2	BODY TYPE TRK3	TRK4	M.C.	TOTAL	
T O T A L	1998	22.106	18.768	13.659	7.689	5.691	50.000	18.327
	1999	22.116	18.707	13.796	7.748	5.725	50.000	18.406
	2000	22.211	18.721	14.000	7.787	5.760	50.000	18.460
	2001	22.346	18.800	14.179	7.826	5.795	50.000	18.563
	2002	22.415	18.852	14.314	7.860	5.830	50.000	18.623
	2003	22.530	18.894	14.426	7.888	5.859	50.000	18.702
	2004	22.585	18.916	14.514	7.921	5.894	50.000	18.748
	2005	22.717	18.968	14.609	7.944	5.924	50.000	18.835
	2006	22.775	18.994	14.670	7.969	5.954	50.000	18.877
	2007	22.805	19.019	14.728	7.990	5.978	50.000	18.905
	2008	22.830	19.042	14.768	8.011	6.008	50.000	18.932
	2009	22.853	19.058	14.806	8.028	6.033	50.000	18.954
	2010	22.869	19.070	14.833	8.048	6.058	50.000	18.973
	2011	22.890	19.088	14.854	8.064	6.083	50.000	18.996
	2012	22.906	19.098	14.868	8.079	6.107	50.000	19.013
	2015	22.923	19.119	14.900	8.112	6.177	50.000	19.044
	2020	22.922	19.144	14.916	8.157	6.271	50.000	19.076
G A S O L I N E	1998	22.076	18.754	13.320	7.087	5.655	50.000	20.156
	1999	22.088	18.696	13.483	7.130	5.678	50.000	20.262
	2000	22.186	18.712	13.709	7.173	5.703	50.000	20.346
	2001	22.324	18.792	13.907	7.216	5.726	50.000	20.471
	2002	22.395	18.846	14.058	7.259	5.745	50.000	20.542
	2003	22.512	18.889	14.184	7.296	5.757	50.000	20.637
	2004	22.569	18.912	14.283	7.333	5.777	50.000	20.686
	2005	22.703	18.965	14.389	7.369	5.785	50.000	20.791
	2006	22.762	18.991	14.457	7.394	5.799	50.000	20.839
	2007	22.792	19.017	14.521	7.425	5.809	50.000	20.869
	2008	22.818	19.041	14.566	7.455	5.818	50.000	20.894
	2009	22.841	19.057	14.608	7.486	5.827	50.000	20.917
	2010	22.857	19.069	14.637	7.510	5.836	50.000	20.932
	2011	22.880	19.087	14.660	7.541	5.841	50.000	20.953
	2012	22.898	19.097	14.675	7.566	5.846	50.000	20.968
	2015	22.913	19.118	14.710	7.627	5.859	50.000	20.988
	2020	22.913	19.143	14.727	7.719	5.874	50.000	21.001
D I E S E L	1998	26.891	23.413	18.255	7.870	5.691	0.000	7.757
	1999	26.973	23.350	18.159	7.915	5.725	0.000	7.712
	2000	27.084	23.378	18.028	7.953	5.760	0.000	7.674
	2001	27.134	23.410	17.921	7.991	5.795	0.000	7.650
	2002	27.394	23.445	17.838	8.023	5.830	0.000	7.634
	2003	27.403	23.529	17.762	8.048	5.860	0.000	7.620
	2004	27.361	23.537	17.698	8.080	5.894	0.000	7.618
	2005	27.690	23.473	17.646	8.099	5.924	0.000	7.615
	2006	27.735	26.471	17.604	8.124	5.954	0.000	7.618
	2007	27.881	24.004	17.573	8.143	5.979	0.000	7.620
	2008	28.027	24.011	17.549	8.162	6.009	0.000	7.630
	2009	28.625	23.994	17.534	8.175	6.034	0.000	7.639
	2010	28.686	24.002	17.523	8.194	6.058	0.000	7.651
	2011	27.640	23.984	17.514	8.207	6.083	0.000	7.661
	2012	27.451	24.006	17.509	8.219	6.108	0.000	7.673
	2015	28.459	23.995	17.503	8.245	6.178	0.000	7.711
	2020	28.326	23.993	17.499	8.276	6.272	0.000	7.770

Figure-15
CALIFORNIA VEHICLE FLEET FUEL ECONOMY BY BODY TYPE



REFERENCES

1. Lynch, R and Lee, L., "A Statewide Aggregate Model for Forecasting Vehicle Miles of Travel and Fuel Consumption", California Department of Transportation, Division of Transportation Planning, July 1979.
2. R. L. Polk, "Annual National Vehicle Population Profile, California", 1983, 1984, 1986, 1988, 1990, 1992.
3. UCLA, "The UCLA Anderson Forecast for the Nation and California", September 1999.
4. California Department of Finance, 10-Year Population Update, Budget Projections, May 1998.
5. State of California, Department of Finance, County Population Projections with Race/Ethnic Detail, Sacramento, California, December 1998.
6. U.S. Department of Commerce, Bureau of the Census, "Truck Inventory and Use Survey", 1977, 1982, 1987 and 1992.
7. The WEFA Group, "U.S. Long-Term Economic Outlook", Volume 1, Third Quarter 1999.

APPENDIX A

Vehicle Body Type Definitions:

The motor vehicle fleet is stratified into six classes by body type, one class of autos, four classes of trucks by gross vehicle weight and one class of motorcycles. These are defined as follows:

- AUTOS AUTOS include all passenger vehicles registered as regular autos and station wagons.
- TRK1 TRK1 includes all Truck Gross Vehicle Weight Class 1 trucks (GVW 0 to 6,000 lbs.)
- TRK2 TRK2 includes all Truck Gross Vehicle Weight Class 2 trucks (GVW 6,001 to 10,000 lbs.)
- TRK3 TRK3 includes trucks of Truck Gross Vehicle Weight Classes 3 (GVW 10,001 to 14,000 lbs.), 4 (GVW 14,001 to 16,000 lbs.), 5 (GVW 16,001 to 19,500 lbs.), 6 (GVW 19,501 to 26,000 lbs.), and 7 (GVW 26,001 to 33,000 lbs.)
- TRK4 TRK4 includes all trucks of Truck Gross Vehicle Weight Classes 8 and above (GVW 33,001+ lbs.)
- MC MC includes all registered motorcycles which excludes motorbicycles and off-road motor-powered dirt bikes.

APPENDIX B

CALIFORNIA VEHICLE MILES/KILOMETERS OF TRAVEL BY COUNTY AND ROAD SYSTEM

1990 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	7152.000	4279.340	11431.340
ALPINE	41.000	7.262	48.262
AMADOR	223.000	61.620	284.620
BUTTE	540.000	915.457	1455.457
CALAVERAS	215.000	89.559	304.559
COLUSA	347.000	102.236	449.236
CONTRA COSTA	3445.000	3246.368	6691.368
DEL NORTE	150.000	61.124	211.124
EL DORADO	757.000	474.890	1231.890
FRESNO	2066.000	3172.677	5238.677
GLENN	290.000	91.583	381.583
HUMBOLDT	661.000	408.296	1069.296
IMPERIAL	800.000	452.897	1252.897
INYO	382.000	65.501	447.501
KERN	3275.000	2022.720	5297.720
KINGS	489.000	417.384	906.384
LAKE	256.000	120.888	376.888
LASSEN	265.000	200.682	465.682
LOS ANGELES	34243.000	37622.039	71865.040
MADERA	655.000	281.274	936.274
MARIN	1409.000	1082.729	2491.729
MARIPOSA	105.000	103.366	208.366
MENDOCINO	619.000	346.644	965.644
MERCED	1289.000	470.881	1759.881
MODOC	83.000	60.075	143.075
MONO	276.000	24.399	300.399
MONTEREY	1710.000	1372.504	3082.504
NAPA	531.000	356.069	887.069
NEVADA	565.000	308.774	873.774
ORANGE	11304.000	11466.120	22770.120
PLACER	1295.000	702.972	1997.972
PLUMAS	160.000	99.828	259.828
RIVERSIDE	7170.000	4289.729	11459.730
SACRAMENTO	3771.000	5032.580	8803.580
SAN BENITO	255.000	93.997	348.997
SAN BERNARDINO	8593.000	4624.414	13217.410
SAN DIEGO	12088.000	9415.592	21503.590
SAN FRANCISCO	1441.000	2191.836	3632.836
SAN JOAQUIN	2415.000	1931.905	4346.905
SAN LUIS OBISPO	1482.000	698.928	2180.928
SAN MATEO	4212.000	2003.598	6215.598
SANTA BARBARA	1963.000	1055.183	3018.183
SANTA CLARA	5915.000	7116.808	13031.810
SANTA CRUZ	892.000	846.475	1738.475
SHASTA	973.000	614.108	1587.108
SIERRA	60.000	29.915	89.915
SISKIYOU	570.000	199.754	769.754
SOLANO	2381.000	970.847	3351.847
SONOMA	1605.000	1425.999	3030.999
STANISLAUS	1268.000	1509.908	2777.908
SUTTER	320.000	275.183	595.183
TEHAMA	516.000	215.304	731.304
TRINITY	117.000	25.272	142.272
TULARE	1173.000	1300.106	2473.106
TUOLUMNE	291.000	190.485	481.485
VENTURA	2931.000	2464.488	5395.488
YOLO	979.000	533.314	1512.314
YUBA	230.000	250.136	480.136
TOTAL	139209.000	119794.000	259003.000

1990 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	11510.028	6886.930	18396.959
ALPINE	65.983	11.687	77.670
AMADOR	358.884	99.168	458.051
BUTTE	869.046	1473.285	2342.331
CALAVERAS	346.009	144.131	490.140
COLUSA	558.442	164.533	722.975
CONTRA COSTA	5544.190	5224.523	10768.713
DEL NORTE	241.402	98.370	339.771
EL DORADO	1218.273	764.261	1982.535
FRESNO	3324.905	5105.929	8430.833
GLENN	466.710	147.389	614.098
HUMBOLDT	1063.776	657.089	1720.865
IMPERIAL	1287.475	728.867	2016.342
INYO	614.769	105.414	720.183
KERN	5270.602	3255.252	8525.854
KINGS	786.969	671.714	1458.684
LAKE	411.992	194.550	606.542
LASSEN	426.476	322.966	749.443
LOS ANGELES	55108.766	60546.805	115655.571
MADERA	1054.120	452.667	1506.787
MARIN	2267.566	1742.483	4010.049
MARIPOSA	168.981	166.351	335.333
MENDOCINO	996.184	557.869	1554.053
MERCED	2074.444	757.810	2832.254
MODOC	133.576	96.681	230.257
MONO	444.179	39.266	483.445
MONTEREY	2751.978	2208.831	4960.809
NAPA	854.562	573.038	1427.599
NEVADA	909.279	496.924	1406.203
ORANGE	18192.025	18452.932	36644.956
PLACER	2084.101	1131.324	3215.424
PLUMAS	257.495	160.658	418.153
RIVERSIDE	11538.996	6903.649	18442.648
SACRAMENTO	6068.836	8099.152	14167.989
SAN BENITO	410.383	151.274	561.656
SAN BERNARDINO	13829.093	7442.273	21271.360
SAN DIEGO	19453.750	15152.927	34606.674
SAN FRANCISCO	2319.065	3527.418	5846.483
SAN JOAQUIN	3886.566	3109.100	6995.666
SAN LUIS OBISPO	2385.048	1124.816	3509.863
SAN MATEO	6778.557	3224.479	10003.035
SANTA BARBARA	3159.142	1698.152	4857.295
SANTA CLARA	9519.270	11453.393	20972.665
SANTA CRUZ	1435.535	1362.269	2797.804
SHASTA	1565.892	988.311	2554.203
SIERRA	96.561	48.144	144.704
SISKIYOU	917.326	321.473	1238.799
SOLANO	3831.848	1562.427	5394.275
SONOMA	2582.997	2294.923	4877.920
STANISLAUS	2040.648	2429.961	4470.610
SUTTER	514.990	442.864	957.854
TEHAMA	830.422	346.498	1176.920
TRINITY	188.293	40.671	228.965
TULARE	1887.760	2092.318	3980.078
TUOLUMNE	468.319	306.556	774.875
VENTURA	4716.987	3966.209	8683.196
YOLO	1575.548	858.286	2433.833
YUBA	370.149	402.555	772.704
TOTAL	224035.172	192789.750	416824.925

1995 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	7446.094	4978.716	12424.810
ALPINE	42.031	8.258	50.288
AMADOR	245.670	84.153	329.823
BUTTE	607.915	981.743	1589.659
CALAVERAS	250.213	115.479	365.692
COLUSA	392.990	109.167	502.157
CONTRA COSTA	3643.810	3466.372	7110.182
DEL NORTE	157.375	67.824	225.199
EL DORADO	802.615	660.853	1463.468
FRESNO	2349.317	3697.812	6047.128
GLENN	322.618	120.538	443.156
HUMBOLDT	686.710	442.605	1129.314
IMPERIAL	880.310	502.488	1382.798
INYO	373.176	72.673	445.849
KERN	3692.823	2365.436	6058.259
KINGS	517.071	450.224	967.295
LAKE	298.372	159.667	458.039
LASSEN	313.735	243.389	557.124
LOS ANGELES	35077.895	38915.496	73993.391
MADERA	778.416	345.037	1123.453
MARIN	1433.790	1123.358	2557.148
MARISPOSA	125.356	114.461	239.817
MENDOCINO	646.967	419.624	1066.591
MERCED	1349.182	740.422	2089.604
MODOC	92.546	68.090	160.636
MONO	251.333	26.732	278.064
MONTEREY	1803.910	1421.387	3225.297
NAPA	536.263	373.575	909.837
NEVADA	634.526	344.081	978.607
ORANGE	11224.334	11905.607	23129.941
PLACER	1489.990	1039.482	2529.472
PLUMAS	180.789	109.287	290.076
RIVERSIDE	7380.951	4928.492	12309.442
SACRAMENTO	4193.164	5100.004	9293.169
SAN BENITO	285.832	119.000	404.832
SAN BERNARDINO	9716.704	5973.938	15690.642
SAN DIEGO	12603.485	10450.808	23054.293
SAN FRANCISCO	1503.313	2221.684	3724.997
SAN JOAQUIN	2818.117	2100.808	4918.925
SAN LUIS OBISPO	1557.005	767.077	2324.082
SAN MATEO	4271.216	2162.862	6434.078
SANTA BARBARA	2016.736	1165.377	3182.114
SANTA CLARA	6202.178	7372.168	13574.347
SANTA CRUZ	964.584	901.866	1866.449
SHASTA	1076.579	674.745	1751.324
SIERRA	57.836	28.706	86.542
SISKIYOU	579.600	279.885	859.485
SOLONO	2612.947	1109.651	3722.597
SONOMA	1752.949	1604.533	3357.483
STANISLAUS	1373.184	2049.389	3422.573
SUTTER	370.762	303.935	674.697
TEHAMA	553.252	235.268	788.520
TRINITY	113.962	31.776	145.738
TULARE	1341.240	1462.093	2803.333
TUOLUMNE	293.840	210.761	504.601
VENTURA	3117.036	2664.815	5781.852
YOLO	1063.659	563.462	1627.121
YUBA	246.729	295.853	542.581
TOTAL	146715.016	130252.969	276968.000

1995 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	11983.327	8012.467	19995.793
ALPINE	67.642	13.290	80.931
AMADOR	395.368	135.431	530.799
BUTTE	978.344	1579.962	2558.308
CALAVERAS	402.679	185.845	588.524
COLUSA	632.456	175.687	808.143
CONTRA COSTA	5864.144	5578.585	11442.729
DEL NORTE	253.271	109.152	362.423
EL DORADO	1291.684	1063.540	2355.223
FRESNO	3780.859	5951.052	9731.909
GLENN	519.203	193.987	713.190
HUMBOLDT	1105.153	712.304	1817.455
IMPERIAL	1416.722	808.676	2225.398
INYO	600.569	116.956	717.524
KERN	5943.022	3806.800	9749.823
KINGS	832.145	724.565	1556.710
LAKE	480.183	256.959	737.142
LASSEN	504.908	391.697	896.604
LOS ANGELES	56452.398	62628.422	119080.820
MADERA	1252.739	555.283	1808.022
MARIN	2307.461	1807.870	4115.331
MARISPOSA	201.741	184.207	385.948
MENDOCINO	1041.193	675.319	1716.512
MERCED	2171.298	1191.594	3362.892
MODOC	148.938	109.580	258.519
MONO	404.481	43.021	447.501
MONTEREY	2903.112	2287.501	5190.612
NAPA	863.032	601.211	1464.241
NEVADA	1021.171	553.745	1574.915
ORANGE	18063.814	19160.217	37224.032
PLACER	2397.906	1672.884	4070.791
PLUMAS	290.952	175.880	466.832
RIVERSIDE	11878.489	7931.639	19810.127
SACRAMENTO	6748.243	8207.661	14955.906
SAN BENITO	460.002	191.512	651.514
SAN BERNARDINO	15637.520	9614.121	25251.641
SAN DIEGO	20283.344	16818.945	37102.288
SAN FRANCISCO	2419.348	3575.454	5994.802
SAN JOAQUIN	4535.320	3380.923	7916.242
SAN LUIS OBISPO	2505.757	1234.491	3740.247
SAN MATEO	6873.856	3480.789	10354.645
SANTA BARBARA	3245.622	1875.492	5121.116
SANTA CLARA	9981.438	11864.354	21845.794
SANTA CRUZ	1552.348	1451.413	3003.759
SHASTA	1732.586	1085.897	2818.483
SIERRA	93.078	46.198	139.276
SISKIYOU	932.776	450.431	1383.207
SOLONO	4205.130	1785.810	5990.939
SONOMA	2821.098	2582.246	5403.345
STANISLAUS	2209.926	3298.172	5508.097
SUTTER	596.684	489.136	1085.820
TEHAMA	890.373	378.627	1269.000
TRINITY	183.404	51.139	234.543
TULARE	2158.517	2353.010	4511.527
TUOLUMNE	472.890	339.187	812.077
VENTURA	5016.383	4288.604	9304.989
YOLO	1711.793	906.804	2618.597
YUBA	397.072	476.129	873.199
TOTAL	236114.938	209621.828	445736.791

1998 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	8017.000	5192.674	13209.674
ALPINE	45.000	7.964	52.964
AMADOR	247.000	85.353	332.353
BUTTE	610.000	972.188	1582.188
CALAVERAS	242.000	116.915	358.915
COLUSA	405.000	95.977	500.977
CONTRA COSTA	3770.000	3691.937	7461.937
DEL NORTE	158.000	69.183	227.183
EL DORADO	813.000	721.947	1534.947
FRESNO	2526.000	3751.119	6277.119
GLENN	307.000	106.508	413.508
HUMBOLDT	687.000	443.752	1130.752
IMPERIAL	1009.000	467.578	1476.578
INYO	375.000	71.938	446.938
KERN	3750.000	2534.276	6284.276
KINGS	580.000	427.317	1007.317
LAKE	293.000	176.325	469.325
LASSEN	296.000	242.106	538.106
LOS ANGELES	36800.000	40173.000	76972.999
MADERA	840.000	367.090	1207.090
MARIN	1537.000	1138.343	2675.343
MARIPOSA	115.000	113.942	228.942
MENDOCINO	657.000	393.189	1050.189
MERCED	1362.000	694.948	2056.948
MODOC	90.000	68.077	158.077
MONO	236.000	27.141	263.141
MONTEREY	1917.000	1465.329	3382.329
NAPA	609.000	392.138	1001.138
NEVADA	629.000	346.560	975.560
ORANGE	11917.000	12705.155	24622.156
PLACER	1553.000	1127.784	2680.784
PLUMAS	173.000	140.888	313.888
RIVERSIDE	8168.000	5368.041	13536.041
SACRAMENTO	4407.000	5375.344	9782.344
SAN BENITO	308.000	128.224	436.224
SAN BERNARDINO	9721.000	6146.787	15867.787
SAN DIEGO	13758.000	10543.359	24301.359
SAN FRANCISCO	1490.000	2281.531	3771.531
SAN JOAQUIN	2924.000	2072.586	4996.586
SAN LUIS OBISPO	1662.000	812.471	2474.471
SAN MATEO	4730.000	2386.573	7116.573
SANTA BARBARA	2141.000	1241.336	3382.336
SANTA CLARA	7492.000	7570.011	15062.010
SANTA CRUZ	983.000	972.151	1955.151
SHASTA	1052.000	771.170	1823.170
SIERRA	66.000	28.252	94.252
SISKIYOU	559.000	213.014	772.014
SOLANO	2659.000	1227.031	3886.031
SONOMA	1828.000	1722.170	3550.170
STANISLAUS	1391.000	1949.363	3340.363
SUTTER	385.000	329.438	714.438
TEHAMA	538.000	231.080	769.080
TRINITY	120.000	31.648	151.648
TULARE	1392.000	1486.471	2878.471
TUOLUMNE	274.000	211.042	485.042
VENTURA	3393.000	2728.422	6121.422
YOLO	1131.000	613.582	1744.582
YUBA	266.000	308.267	574.267
TOTAL	155403.000	135078.000	290481.000

1998 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	12902.111	8356.799	21258.910
ALPINE	72.420	12.817	85.237
AMADOR	397.508	137.362	534.870
BUTTE	981.700	1564.585	2546.285
CALAVERAS	389.461	188.156	577.618
COLUSA	651.784	154.460	806.244
CONTRA COSTA	6067.227	5941.597	12008.824
DEL NORTE	254.276	111.339	365.616
EL DORADO	1308.397	1161.861	2470.258
FRESNO	4065.203	6036.841	10102.044
GLENN	494.069	171.408	665.477
HUMBOLDT	1105.619	714.150	1819.769
IMPERIAL	1623.828	752.494	2376.322
INYO	603.504	115.773	719.277
KERN	6035.040	4078.522	10113.562
KINGS	933.419	687.700	1621.120
LAKE	471.538	283.768	755.305
LASSEN	476.366	389.632	865.998
LOS ANGELES	59223.859	64652.176	123876.035
MADERA	1351.849	590.774	1942.623
MARIN	2473.562	1831.985	4305.547
MARIPOSA	185.075	183.372	368.446
MENDOCINO	1057.339	632.776	1690.115
MERCED	2191.927	1118.410	3310.337
MODOC	144.841	109.559	254.400
MONO	379.805	43.679	423.484
MONTEREY	3085.113	2358.219	5443.331
NAPA	980.091	631.085	1611.175
NEVADA	1012.277	557.734	1570.012
ORANGE	19178.553	20446.965	39625.519
PLACER	2499.311	1814.992	4314.304
PLUMAS	278.417	226.737	505.154
RIVERSIDE	13145.122	8639.024	21784.146
SACRAMENTO	7092.379	8650.777	15743.157
SAN BENITO	495.678	206.357	702.034
SAN BERNARDINO	15644.433	9892.295	25536.728
SAN DIEGO	22141.355	16967.893	39109.246
SAN FRANCISCO	2397.923	3671.768	6069.691
SAN JOAQUIN	4705.722	3335.504	8041.226
SAN LUIS OBISPO	2674.730	1307.545	3982.275
SAN MATEO	7612.197	3840.817	11453.014
SANTA BARBARA	3445.605	1997.737	5443.342
SANTA CLARA	12057.205	12182.752	24239.956
SANTA CRUZ	1581.985	1564.525	3146.511
SHASTA	1693.030	1241.078	2934.108
SIERRA	106.217	45.467	151.684
SISKIYOU	899.623	342.813	1242.436
SOLANO	4279.246	1974.715	6253.961
SONOMA	2941.881	2771.564	5713.445
STANISLAUS	2238.597	3137.196	5375.793
SUTTER	619.597	530.179	1149.777
TEHAMA	865.827	371.887	1237.714
TRINITY	193.121	50.933	244.054
TULARE	2240.207	2392.243	4632.450
TUOLUMNE	440.960	339.639	780.599
VENTURA	5460.504	4390.970	9851.474
YOLO	1820.168	987.465	2807.633
YUBA	428.086	496.108	924.193
TOTAL	250096.891	217386.969	467483.856

2000 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	8305.969	5389.374	13695.343
ALPINE	47.000	8.333	55.332
AMADOR	254.266	88.019	342.285
BUTTE	643.217	1026.944	1670.161
CALAVERAS	255.313	123.565	378.879
COLUSA	438.852	104.184	543.036
CONTRA COSTA	3895.705	3821.799	7717.504
DEL NORTE	165.213	72.469	237.682
EL DORADO	861.367	766.253	1627.620
FRESNO	2649.594	3941.628	6591.222
GLENN	327.833	113.937	441.770
HUMBOLDT	704.082	455.591	1159.673
IMPERIAL	1090.894	506.424	1597.318
INYO	385.936	74.167	460.103
KERN	3985.670	2698.316	6683.986
KINGS	612.935	452.382	1065.317
LAKE	310.429	187.145	497.574
LASSEN	309.882	253.909	563.791
LOS ANGELES	38060.715	41622.895	79683.609
MADERA	901.630	394.721	1296.351
MARIN	1575.963	1169.268	2745.231
MARIPOSA	120.426	119.530	239.956
MENDOCINO	685.578	411.019	1096.596
MERCED	1439.286	735.684	2174.970
MODOC	93.031	70.494	163.525
MONO	245.811	28.319	274.131
MONTEREY	2021.447	1547.905	3569.352
NAPA	632.505	407.995	1040.500
NEVADA	659.808	364.179	1023.987
ORANGE	12350.084	13190.214	25540.297
PLACER	1649.942	1200.306	2850.249
PLUMAS	177.394	144.722	322.116
RIVERSIDE	8771.740	5775.037	14546.776
SACRAMENTO	4615.123	5639.173	10254.296
SAN BENITO	327.136	136.432	463.568
SAN BERNARDINO	10339.996	6549.777	16889.773
SAN DIEGO	14392.404	11049.075	25441.480
SAN FRANCISCO	1506.802	2311.348	3818.150
SAN JOAQUIN	3094.628	2197.417	5292.045
SAN LUIS OBISPO	1759.085	861.455	2620.541
SAN MATEO	4875.608	2464.400	7340.009
SANTA BARBARA	2243.113	1302.845	3545.958
SANTA CLARA	7779.812	7874.749	15654.561
SANTA CRUZ	1033.094	1023.502	2056.596
SHASTA	1101.237	808.693	1909.930
SIERRA	67.225	28.827	96.052
SISKIYOU	577.367	220.403	797.770
SOLANO	2785.656	1287.756	4073.413
SONOMA	1909.418	1802.062	3711.480
STANISLAUS	1473.821	2069.090	3542.911
SUTTER	404.694	346.903	751.597
TEHAMA	566.876	243.914	810.790
TRINITY	123.498	32.628	156.126
TULARE	1472.688	1575.422	3048.111
TUOLUMNE	286.945	221.405	508.350
VENTURA	3541.484	2852.869	6394.352
YOLO	1185.932	644.524	1830.456
YUBA	277.881	322.607	600.488
TOTAL	162371.047	141134.031	303505.063

2000 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	13367.161	8673.356	22040.518
ALPINE	75.639	13.411	89.048
AMADOR	409.201	141.653	550.854
BUTTE	1035.157	1652.706	2687.864
CALAVERAS	410.886	198.859	609.747
COLUSA	706.264	167.668	873.932
CONTRA COSTA	6269.529	6150.589	12420.119
DEL NORTE	265.885	116.628	382.512
EL DORADO	1386.236	1233.165	2619.400
FRESNO	4264.108	6343.436	10607.544
GLENN	527.596	183.364	710.960
HUMBOLDT	1133.110	733.203	1866.313
IMPERIAL	1755.624	815.010	2570.634
INYO	621.104	119.360	740.464
KERN	6414.314	4342.519	10756.833
KINGS	986.423	728.038	1714.462
LAKE	499.587	301.181	800.768
LASSEN	498.707	408.627	907.334
LOS ANGELES	61252.785	66985.555	128238.338
MADERA	1451.033	635.242	2086.275
MARIN	2536.267	1881.754	4418.021
MARIPOSA	193.807	192.365	386.172
MENDOCINO	1103.331	661.471	1764.800
MERCED	2316.306	1183.969	3500.275
MODOC	149.719	113.449	263.168
MONO	395.594	45.575	441.171
MONTEREY	3253.204	2491.112	5744.315
NAPA	1017.918	656.604	1674.522
NEVADA	1061.858	586.089	1647.947
ORANGE	19875.533	21227.592	41103.124
PLACER	2655.324	1931.705	4587.031
PLUMAS	285.488	232.907	518.395
RIVERSIDE	14116.747	9294.021	23410.767
SACRAMENTO	7427.320	9075.369	16502.690
SAN BENITO	526.474	219.566	746.040
SAN BERNARDINO	16640.611	10540.845	27181.455
SAN DIEGO	23162.330	17781.762	40944.093
SAN FRANCISCO	2424.963	3719.754	6144.717
SAN JOAQUIN	4980.321	3536.400	8516.721
SAN LUIS OBISPO	2830.973	1386.377	4217.352
SAN MATEO	7846.530	3966.067	11812.599
SANTA BARBARA	3609.940	2096.726	5706.666
SANTA CLARA	12520.394	12673.180	25193.574
SANTA CRUZ	1662.604	1647.167	3309.770
SHASTA	1772.269	1301.465	3073.734
SIERRA	108.188	46.393	154.581
SISKIYOU	929.182	354.704	1283.886
SOLANO	4483.079	2072.442	6555.523
SONOMA	3072.910	2900.138	5973.048
STANISLAUS	2371.885	3329.878	5701.763
SUTTER	651.292	558.286	1209.578
TEHAMA	912.299	392.542	1304.840
TRINITY	198.751	52.510	251.260
TULARE	2370.062	2535.396	4905.459
TUOLUMNE	461.793	356.317	818.110
VENTURA	5699.466	4591.248	10290.712
YOLO	1908.573	1037.261	2945.833
YUBA	447.206	519.186	966.392
TOTAL	261310.875	227133.203	488444.054

2005 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	9079.762	5918.181	14997.942
ALPINE	52.425	9.337	61.762
AMADOR	273.530	95.118	368.647
BUTTE	734.792	1178.473	1913.266
CALAVERAS	292.050	141.986	434.036
COLUSA	536.680	127.986	664.665
CONTRA COSTA	4230.930	4169.495	8400.425
DEL NORTE	184.819	81.437	266.256
EL DORADO	995.797	889.857	1885.654
FRESNO	2987.324	4464.209	7451.533
GLENN	386.523	134.944	521.467
HUMBOLDT	749.077	486.905	1235.983
IMPERIAL	1326.629	618.653	1945.281
INYO	414.918	80.098	495.016
KERN	4644.239	3158.434	7802.673
KINGS	704.073	522.005	1226.079
LAKE	358.870	217.329	576.199
LASSEN	347.691	286.182	633.873
LOS ANGELES	41427.426	45510.223	86937.648
MADERA	1076.809	473.551	1550.360
MARIN	1678.666	1251.118	2929.783
MARIPOSA	135.213	134.815	270.028
MENDOCINO	762.998	459.509	1222.507
MERCED	1653.142	848.829	2501.970
MODOC	101.117	76.969	178.086
MONO	272.311	31.515	303.825
MONTEREY	2309.411	1776.433	4085.844
NAPA	695.697	450.792	1146.489
NEVADA	744.002	412.512	1156.514
ORANGE	13510.313	14494.829	28005.143
PLACER	1920.658	1403.587	3324.245
PLUMAS	188.975	154.870	343.846
RIVERSIDE	10489.359	6937.191	17426.551
SACRAMENTO	5182.293	6360.919	11543.213
SAN BENITO	380.549	159.428	539.976
SAN BERNARDINO	12072.080	7681.641	19753.721
SAN DIEGO	16118.203	12430.109	28548.313
SAN FRANCISCO	1550.492	2389.154	3939.646
SAN JOAQUIN	3567.995	2545.036	6113.031
SAN LUIS OBISPO	2028.453	997.876	3026.329
SAN MATEO	5262.427	2671.987	7934.414
SANTA BARBARA	2521.597	1471.238	3992.835
SANTA CLARA	8553.335	8696.987	17250.322
SANTA CRUZ	1170.424	1164.818	2335.241
SHASTA	1235.325	911.277	2146.602
SIERRA	70.425	30.337	100.762
SISKIYOU	626.311	240.171	866.482
SOLANO	3131.041	1453.987	4585.028
SONOMA	2130.351	2019.694	4150.046
STANISLAUS	1704.030	2403.132	4107.162
SUTTER	458.700	394.981	853.681
TEHAMA	646.385	279.387	925.771
TRINITY	132.768	35.237	168.005
TULARE	1696.399	1822.972	3519.371
TUOLUMNE	322.225	249.754	571.979
VENTURA	3943.908	3191.458	7135.366
YOLO	1335.954	729.350	2065.304
YUBA	310.128	361.677	671.805
TOTAL	181418.000	157689.938	339108.000

2005 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	14612.461	9524.389	24136.848
ALPINE	84.370	15.026	99.396
AMADOR	440.204	153.078	593.280
BUTTE	1182.533	1896.568	3079.103
CALAVERAS	470.009	228.504	698.513
COLUSA	863.703	205.973	1069.675
CONTRA COSTA	6809.022	6710.152	13519.174
DEL NORTE	297.437	131.060	428.497
EL DORADO	1602.580	1432.086	3034.666
FRESNO	4807.632	7184.448	11992.080
GLENN	622.048	217.171	839.220
HUMBOLDT	1205.523	783.598	1989.122
IMPERIAL	2135.002	995.625	3130.626
INYO	667.746	128.905	796.651
KERN	7474.178	5083.007	12557.185
KINGS	1133.096	840.086	1973.183
LAKE	577.545	349.757	927.302
LASSEN	559.554	460.565	1020.120
LOS ANGELES	66670.977	73241.602	139912.583
MADERA	1732.956	762.106	2495.063
MARIN	2701.551	2013.479	4715.029
MARIPOSA	217.604	216.964	434.568
MENDOCINO	1227.926	739.508	1967.434
MERCED	2660.474	1366.058	4026.530
MODOC	162.732	123.870	286.602
MONO	438.242	50.718	488.959
MONTEREY	3716.637	2858.892	6575.529
NAPA	1119.616	725.479	1845.095
NEVADA	1197.355	663.874	1861.229
ORANGE	21742.742	23327.166	45069.909
PLACER	3091.000	2258.854	5349.854
PLUMAS	304.126	249.239	553.366
RIVERSIDE	16880.986	11164.327	28045.315
SACRAMENTO	8340.092	10236.907	18577.001
SAN BENITO	612.434	256.574	869.007
SAN BERNARDINO	19428.129	12362.403	31790.532
SAN DIEGO	25939.732	20004.322	45944.056
SAN FRANCISCO	2495.275	3844.971	6340.246
SAN JOAQUIN	5742.131	4095.838	9837.970
SAN LUIS OBISPO	3264.479	1605.926	4870.404
SAN MATEO	8469.056	4300.146	12769.202
SANTA BARBARA	4058.117	2367.728	6425.845
SANTA CLARA	13765.259	13996.444	27761.702
SANTA CRUZ	1883.615	1874.593	3758.206
SHASTA	1988.063	1466.558	3454.621
SIERRA	113.338	48.823	162.161
SISKIYOU	1007.950	386.518	1394.468
SOLANO	5038.922	2339.965	7378.887
SONOMA	3428.468	3250.382	6678.852
STANISLAUS	2742.370	3867.466	6609.837
SUTTER	738.206	635.660	1373.866
TEHAMA	1040.256	449.630	1489.884
TRINITY	213.669	56.708	270.378
TULARE	2730.090	2933.789	5663.879
TUOLUMNE	518.571	401.940	920.511
VENTURA	6347.104	5136.154	11483.258
YOLO	2150.010	1173.775	3323.785
YUBA	499.103	582.063	1081.165
TOTAL	291963.969	253777.359	545741.427

2010 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	9710.497	6358.787	16069.284
ALPINE	57.209	10.236	67.445
AMADOR	287.874	100.572	388.447
BUTTE	821.211	1323.210	2144.421
CALAVERAS	326.831	159.636	486.467
COLUSA	642.088	153.837	795.925
CONTRA COSTA	4495.402	4450.770	8946.172
DEL NORTE	202.270	89.542	291.813
EL DORADO	1126.253	1011.124	2137.378
FRESNO	3295.098	4947.085	8242.184
GLENN	445.842	156.379	602.221
HUMBOLDT	779.674	509.155	1288.829
IMPERIAL	1578.334	739.461	2317.795
INYO	436.407	84.639	521.046
KERN	5294.326	3617.320	8911.646
KINGS	791.233	589.360	1380.593
LAKE	405.878	246.942	652.820
LASSEN	381.658	315.604	697.262
LOS ANGELES	44114.535	48687.984	92802.523
MADERA	1258.149	555.877	1814.026
MARIN	1749.304	1309.840	3059.144
MARIPOSA	148.525	148.778	297.303
MENDOCINO	830.754	502.646	1333.401
MERCED	1857.616	958.263	2815.880
MODOC	107.523	82.227	189.750
MONO	295.128	34.315	329.443
MONTEREY	2581.207	1994.755	4575.961
NAPA	748.615	487.342	1235.957
NEVADA	820.754	457.188	1277.942
ORANGE	14459.185	15585.134	30044.318
PLACER	2187.330	1605.915	3793.245
PLUMAS	196.950	162.158	359.108
RIVERSIDE	12271.425	8153.587	20425.012
SACRAMENTO	5693.031	7020.377	12713.408
SAN BENITO	433.087	182.283	615.370
SAN BERNARDINO	13788.808	8814.904	22603.711
SAN DIEGO	17659.674	13682.330	31342.004
SAN FRANCISCO	1560.865	2416.346	3977.211
SAN JOAQUIN	4024.600	2884.109	6908.709
SAN LUIS OBISPO	2288.367	1130.983	3419.350
SAN MATEO	5556.819	2834.611	8391.430
SANTA BARBARA	2773.211	1625.583	4398.794
SANTA CLARA	9199.934	9398.036	18597.971
SANTA CRUZ	1297.267	1297.070	2594.337
SHASTA	1355.703	1004.738	2360.441
SIERRA	72.178	31.237	103.415
SISKIYOU	664.678	256.072	920.750
SOLANO	3442.966	1606.289	5049.255
SONOMA	2325.328	2214.816	4540.145
STANISLAUS	1927.492	2730.938	4658.430
SUTTER	508.644	440.028	948.672
TEHAMA	721.069	313.120	1034.188
TRINITY	139.641	37.233	176.874
TULARE	1911.737	2063.949	3975.687
TUOLUMNE	353.999	275.660	629.660
VENTURA	4296.859	3493.273	7790.132
YOLO	1472.332	807.550	2279.882
YUBA	338.615	396.739	735.353
TOTAL	198511.938	172547.906	371059.938

2010 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	15627.530	10233.476	25861.006
ALPINE	92.069	16.473	108.542
AMADOR	463.288	161.855	625.145
BUTTE	1321.611	2129.500	3451.111
CALAVERAS	525.984	256.909	782.893
COLUSA	1033.340	247.577	1280.917
CONTRA COSTA	7234.648	7162.820	14397.468
DEL NORTE	325.522	144.104	469.628
EL DORADO	1812.529	1627.246	3439.776
FRESNO	5302.946	7961.562	13264.509
GLENN	717.513	251.668	969.181
HUMBOLDT	1254.764	819.406	2074.169
IMPERIAL	2540.082	1190.047	3730.129
INYO	702.329	136.213	838.542
KERN	8520.392	5821.512	14341.904
KINGS	1273.366	948.483	2221.849
LAKE	653.197	397.415	1050.612
LASSEN	614.219	507.915	1122.134
LOS ANGELES	70995.461	78355.719	149351.184
MADERA	2024.795	894.597	2919.392
MARIN	2815.232	2107.983	4923.215
MARIPOSA	239.028	239.435	478.463
MENDOCINO	1336.969	808.930	2145.901
MERCED	2989.543	1542.175	4531.720
MODOC	173.041	132.332	305.373
MONO	474.962	55.225	530.187
MONTEREY	4154.050	3210.247	7364.295
NAPA	1204.779	784.301	1989.080
NEVADA	1320.875	735.773	2056.648
ORANGE	23269.803	25081.842	48351.643
PLACER	3520.167	2584.470	6104.636
PLUMAS	316.960	260.968	577.928
RIVERSIDE	19748.943	13121.927	32870.871
SACRAMENTO	9162.045	11298.201	20460.247
SAN BENITO	696.986	293.356	990.342
SAN BERNARDINO	22190.936	14186.213	36377.147
SAN DIEGO	28420.490	22019.576	50440.066
SAN FRANCISCO	2511.969	3888.732	6400.701
SAN JOAQUIN	6476.966	4641.523	11118.489
SAN LUIS OBISPO	3682.770	1820.141	5502.910
SAN MATEO	8942.833	4561.864	13504.698
SANTA BARBARA	4463.050	2616.122	7079.173
SANTA CLARA	14805.858	15124.673	29930.533
SANTA CRUZ	2087.749	2087.432	4175.181
SHASTA	2181.792	1616.969	3798.762
SIERRA	116.159	50.271	166.430
SISKIYOU	1069.696	412.108	1481.803
SOLANO	5540.917	2585.072	8125.988
SONOMA	3742.253	3564.401	7306.655
STANISLAUS	3101.998	4395.019	7497.016
SUTTER	818.583	708.156	1526.740
TEHAMA	1160.448	503.918	1664.364
TRINITY	224.730	59.921	284.651
TULARE	3076.643	3321.604	6398.248
TUOLUMNE	569.706	443.632	1013.340
VENTURA	6915.125	5621.878	12537.002
YOLO	2369.489	1299.626	3669.114
YUBA	544.948	638.490	1183.436
TOTAL	319474.000	277688.938	597163.087

2015 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	10329.101	6796.249	17125.350
ALPINE	62.093	11.163	73.257
AMADOR	301.340	105.780	407.120
BUTTE	912.849	1477.906	2390.755
CALAVERAS	363.783	178.536	542.319
COLUSA	764.061	183.936	947.998
CONTRA COSTA	4750.674	4726.022	9476.696
DEL NORTE	220.177	97.936	318.113
EL DORADO	1266.938	1142.873	2409.811
FRESNO	3615.000	5453.349	9068.349
GLENN	511.495	180.265	691.760
HUMBOLDT	807.148	529.620	1336.768
IMPERIAL	1867.680	879.211	2746.891
INYO	456.537	88.967	545.504
KERN	6002.896	4121.080	10123.976
KINGS	884.393	661.904	1546.297
LAKE	456.570	279.114	735.683
LASSEN	416.686	346.219	762.905
LOS ANGELES	46722.879	51813.578	98536.453
MADERA	1462.108	649.083	2111.190
MARIN	1813.094	1364.103	3177.198
MARIPOSA	162.268	163.323	325.591
MENDOCINO	899.655	546.940	1446.595
MERCED	2076.137	1076.115	3152.252
MODOC	113.720	87.382	201.102
MONO	318.134	37.167	355.301
MONTEREY	2869.448	2228.122	5097.571
NAPA	801.219	524.083	1325.302
NEVADA	900.546	504.036	1404.582
ORANGE	15391.334	16669.281	32060.615
PLACER	2477.609	1827.741	4305.350
PLUMAS	204.155	168.895	373.050
RIVERSIDE	14278.911	9532.851	23811.762
SACRAMENTO	6220.412	7707.437	13927.849
SAN BENITO	490.223	207.319	697.542
SAN BERNARDINO	15664.818	10062.136	25726.955
SAN DIEGO	19244.332	14981.460	34225.793
SAN FRANCISCO	1562.843	2430.990	3993.833
SAN JOAQUIN	4515.184	3251.159	7766.343
SAN LUIS OBISPO	2567.678	1275.102	3842.780
SAN MATEO	5836.069	2991.311	8827.380
SANTA BARBARA	3033.502	1786.671	4820.173
SANTA CLARA	9842.104	10102.162	19944.268
SANTA CRUZ	1430.111	1436.738	2866.849
SHASTA	1479.797	1101.955	2581.752
SIERRA	73.577	31.995	105.572
SISKIYOU	701.595	271.588	973.183
SOLANO	3765.572	1765.207	5530.779
SONOMA	2524.477	2416.010	4940.487
STANISLAUS	2168.513	3087.132	5255.644
SUTTER	560.988	487.634	1048.621
TEHAMA	800.049	349.079	1149.128
TRINITY	146.078	39.136	185.214
TULARE	2142.803	2324.487	4467.290
TUOLUMNE	386.812	302.653	689.465
VENTURA	4656.178	3803.512	8459.690
YOLO	1613.891	889.430	2503.321
YUBA	367.726	432.910	800.636
TOTAL	216275.953	187988.063	404264.031

2015 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	16623.076	10937.503	27560.579
ALPINE	99.929	17.965	117.896
AMADOR	484.960	170.236	655.196
BUTTE	1469.088	2378.459	3847.547
CALAVERAS	585.452	287.326	872.778
COLUSA	1229.637	296.016	1525.655
CONTRA COSTA	7645.469	7605.795	15251.264
DEL NORTE	354.341	157.613	511.953
EL DORADO	2038.939	1839.276	3878.215
FRESNO	5817.779	8776.314	14594.093
GLENN	823.171	290.108	1113.280
HUMBOLDT	1298.979	852.341	2151.320
IMPERIAL	3005.740	1414.953	4420.693
INYO	734.725	143.179	877.904
KERN	9660.725	6632.235	16292.960
KINGS	1423.293	1065.231	2488.524
LAKE	734.778	449.190	1183.967
LASSEN	670.591	557.185	1227.777
LOS ANGELES	75193.188	83385.875	158579.050
MADERA	2353.035	1044.598	3397.631
MARIN	2917.892	2195.311	5113.205
MARIPOSA	261.145	262.843	523.988
MENDOCINO	1447.854	880.215	2328.069
MERCED	3341.219	1731.839	5073.058
MODOC	183.015	140.628	323.642
MONO	511.987	59.814	571.802
MONTEREY	4617.929	3585.815	8203.745
NAPA	1289.437	843.430	2132.867
NEVADA	1449.288	811.167	2260.456
ORANGE	24769.951	26826.607	51596.559
PLACER	3987.325	2941.464	6928.789
PLUMAS	328.556	271.810	600.366
RIVERSIDE	22979.680	15341.637	38321.316
SACRAMENTO	10010.783	12403.918	22414.700
SAN BENITO	788.937	333.648	1122.585
SAN BERNARDINO	25210.080	16193.438	41403.521
SAN DIEGO	30970.750	24110.322	55081.075
SAN FRANCISCO	2515.152	3912.299	6427.451
SAN JOAQUIN	7266.484	5232.233	12498.718
SAN LUIS OBISPO	4132.277	2052.078	6184.355
SAN MATEO	9392.242	4814.048	14206.291
SANTA BARBARA	4881.948	2875.368	7757.317
SANTA CLARA	15839.331	16257.854	32097.188
SANTA CRUZ	2301.541	2312.206	4613.746
SHASTA	2381.502	1773.425	4154.927
SIERRA	118.411	51.491	169.902
SISKIYOU	1129.108	437.079	1566.186
SOLANO	6060.101	2840.825	8900.926
SONOMA	4062.752	3888.191	7950.943
STANISLAUS	3489.883	4968.257	8458.139
SUTTER	902.823	784.771	1687.592
TEHAMA	1287.554	561.788	1849.342
TRINITY	235.090	62.983	298.073
TULARE	3448.507	3740.899	7189.406
TUOLUMNE	622.514	487.073	1109.586
VENTURA	7493.392	6121.159	13614.551
YOLO	2597.306	1431.399	4028.705
YUBA	591.798	696.701	1288.499
TOTAL	348062.406	302537.469	650599.895

2020 ANNUAL STATEWIDE VMT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	11083.531	7328.529	18412.061
ALPINE	67.986	12.283	80.269
AMADOR	318.203	112.250	430.452
BUTTE	1023.617	1665.396	2689.012
CALAVERAS	408.468	201.452	609.920
COLUSA	917.184	221.885	1139.068
CONTRA COSTA	5064.500	5063.013	10127.512
DEL NORTE	241.772	108.071	349.843
EL DORADO	1437.704	1303.298	2741.002
FRESNO	4000.763	6064.985	10065.748
GLENN	591.964	209.652	801.616
HUMBOLDT	842.924	555.816	1398.740
IMPERIAL	2229.466	1054.686	3284.152
INYO	481.786	94.350	576.136
KERN	6866.027	4736.828	11602.855
KINGS	997.196	750.001	1747.197
LAKE	518.100	318.287	836.387
LASSEN	458.922	383.188	842.110
LOS ANGELES	49919.707	55631.137	105550.844
MADERA	1714.041	764.670	2478.711
MARIN	1895.702	1433.273	3328.976
MARIPOSA	178.839	180.887	359.726
MENDOCINO	982.820	600.440	1583.260
MERCED	2340.726	1219.229	3559.954
MODOC	121.329	93.688	215.017
MONO	345.943	40.614	386.557
MONTEREY	3217.871	2510.968	5728.840
NAPA	865.044	568.616	1433.660
NEVADA	996.767	560.636	1557.403
ORANGE	16527.352	17987.707	34515.059
PLACER	2831.037	2098.744	4929.781
PLUMAS	213.481	177.479	390.960
RIVERSIDE	16760.607	11244.738	28005.346
SACRAMENTO	6856.293	8537.134	15393.427
SAN BENITO	559.766	237.895	797.661
SAN BERNARDINO	17952.236	11588.183	29540.418
SAN DIEGO	21155.221	16550.105	37705.328
SAN FRANCISCO	1578.556	2467.514	4046.071
SAN JOAQUIN	5110.021	3697.578	8807.599
SAN LUIS OBISPO	2906.364	1450.395	4356.759
SAN MATEO	6183.142	3184.801	9367.942
SANTA BARBARA	3347.343	1981.219	5328.562
SANTA CLARA	10621.500	10955.801	21577.301
SANTA CRUZ	1590.394	1605.626	3196.021
SHASTA	1629.424	1219.349	2848.772
SIERRA	75.661	33.063	108.724
SISKIYOU	747.061	290.611	1037.672
SOLANO	4154.546	1957.133	6111.679
SONOMA	2764.731	2658.963	5423.694
STANISLAUS	2461.081	3520.878	5981.959
SUTTER	624.147	545.205	1169.352
TEHAMA	895.469	392.636	1288.106
TRINITY	154.152	41.503	195.655
TULARE	2422.875	2641.239	5064.114
TUOLUMNE	426.374	335.250	761.625
VENTURA	5089.822	4178.205	9268.027
YOLO	1784.585	988.341	2772.926
YUBA	402.845	476.587	879.432
TOTAL	237954.969	206832.000	444787.031

2020 ANNUAL STATEWIDE VKT DISTRIBUTION BY COUNTY (MILLIONS)

COUNTY	SHS	OTHER	TOTAL
ALAMEDA	17837.215	11794.124	29631.340
ALPINE	109.413	19.768	129.180
AMADOR	512.098	180.649	692.745
BUTTE	1647.352	2680.195	4327.545
CALAVERAS	657.366	324.206	981.571
COLUSA	1476.065	357.089	1833.152
CONTRA COSTA	8150.523	8148.129	16298.651
DEL NORTE	389.094	173.923	563.018
EL DORADO	2313.760	2097.455	4411.215
FRESNO	6438.604	9760.647	16199.251
GLENN	952.674	337.402	1290.076
HUMBOLDT	1356.555	894.499	2251.054
IMPERIAL	3587.978	1697.353	5285.330
INYO	775.359	151.842	927.201
KERN	11049.800	7623.186	18672.985
KINGS	1604.831	1207.010	2811.841
LAKE	833.801	512.233	1346.034
LASSEN	738.563	616.681	1355.245
LOS ANGELES	80337.984	89529.641	169867.618
MADERA	2758.482	1230.617	3989.099
MARIN	3050.837	2306.629	5357.468
MARIPOSA	287.813	291.109	578.923
MENDOCINO	1581.695	966.315	2548.010
MERCED	3767.033	1962.159	5729.191
MODOC	195.260	150.776	346.036
MONO	556.741	65.362	622.103
MONTEREY	5178.662	4041.011	9219.674
NAPA	1392.153	915.099	2307.252
NEVADA	1604.141	902.256	2506.397
ORANGE	26598.195	28948.408	55546.603
PLACER	4556.112	3377.601	7933.714
PLUMAS	343.564	285.625	629.189
RIVERSIDE	26973.582	18096.652	45070.236
SACRAMENTO	11034.134	13739.186	24773.319
SAN BENITO	900.856	382.855	1283.711
SAN BERNARDINO	28891.324	18649.373	47540.695
SAN DIEGO	34046.027	26634.813	60680.844
SAN FRANCISCO	2540.440	3971.079	6511.520
SAN JOAQUIN	8223.781	5950.675	14174.457
SAN LUIS OBISPO	4677.339	2334.185	7011.524
SAN MATEO	9950.803	5125.440	15076.241
SANTA BARBARA	5387.026	3188.463	8575.489
SANTA CLARA	17093.646	17631.652	34725.300
SANTA CRUZ	2559.491	2584.005	5143.497
SHASTA	2622.304	1962.352	4584.654
SIERRA	121.765	53.210	174.974
SISKIYOU	1202.278	467.693	1669.971
SOLANO	6686.094	3149.700	9835.794
SONOMA	4449.403	4279.186	8728.589
STANISLAUS	3960.726	5666.304	9627.030
SUTTER	1004.467	877.422	1881.890
TEHAMA	1441.118	631.886	2073.006
TRINITY	248.084	66.793	314.876
TULARE	3899.239	4250.662	8149.902
TUOLUMNE	686.182	539.533	1225.717
VENTURA	8191.274	6724.169	14915.444
YOLO	2872.011	1590.581	4462.592
YUBA	648.316	766.992	1415.309
TOTAL	382951.406	332863.844	715815.342

APPENDIX C

CALIFORNIA VEHICLE FUEL CONSUMPTION BY COUNTY AND FUEL TYPE

1995 ANNUAL STATEWIDE VFC DISTRIBUTION BY COUNTY

COUNTY	GASOLINE	DIESEL	TOTAL
ALAMEDA	567.313	78.239	645.552
ALPINE	2.162	0.289	2.450
AMADOR	15.290	2.414	17.705
BUTTE	71.271	10.898	82.169
CALAVERAS	16.377	2.018	18.395
COLUSA	21.142	10.991	32.133
CONTRA COSTA	327.205	37.697	364.902
DEL NORTE	9.941	1.900	11.842
EL DORADO	66.902	7.834	74.736
FRESNO	273.532	59.844	333.376
GLENN	18.324	9.597	27.921
HUMBOLDT	52.842	9.525	62.367
IMPERIAL	63.581	19.557	83.137
INYO	21.197	4.293	25.490
KERN	269.325	101.270	370.595
KINGS	42.782	12.264	55.046
LAKE	20.964	2.679	23.643
LASSEN	25.602	6.000	31.602
LOS ANGELES	3507.030	472.980	3980.011
MADERA	51.944	16.529	68.472
MARIN	121.026	11.322	132.348
MARISPOSA	11.018	0.909	11.927
MENDOCINO	48.815	7.713	56.529
MERCED	94.719	34.059	128.778
MODOC	7.328	2.035	9.363
MONO	12.752	2.482	15.235
MONTEREY	151.091	27.608	178.698
NAPA	42.532	5.748	48.279
NEVADA	44.368	7.598	51.966
ORANGE	1061.933	133.375	1195.308
PLACER	114.180	19.018	133.198
PLUMAS	13.130	2.888	16.018
RIVERSIDE	557.851	139.249	697.100
SACRAMENTO	428.933	66.411	495.344
SAN BENITO	18.717	4.873	23.591
SAN BERNARDINO	714.652	177.707	892.359
SAN DIEGO	1070.276	124.792	1195.068
SAN FRANCISCO	172.838	14.092	186.930
SAN JOAQUIN	222.537	67.002	289.539
SAN LUIS OBISPO	105.364	18.408	123.772
SAN MATEO	305.807	26.189	331.996
SANTA BARBARA	145.217	22.769	167.985
SANTA CLARA	658.540	67.197	725.737
SANTA CRUZ	83.801	8.286	92.088
SHASTA	75.620	21.871	97.491
SIERRA	4.038	1.269	5.308
SISKIYOU	34.361	18.660	53.021
SOLONO	172.492	28.194	200.686
SONOMA	153.252	19.926	173.178
STANISLAUS	154.715	34.255	188.969
SUTTER	31.307	6.032	37.339
TEHAMA	33.137	13.046	46.183
TRINITY	6.602	2.383	8.985
TULARE	125.786	39.598	165.384
TUOLUMNE	22.443	2.841	25.284
VENTURA	270.426	35.839	306.265
YOLO	76.526	19.521	96.046
YUBA	25.401	3.527	28.929
TOTAL	12838.255	2105.512	14943.767

VFC in Million Gallons

2000 ANNUAL STATEWIDE VFC DISTRIBUTION BY COUNTY

COUNTY	GASOLINE	DIESEL	TOTAL
ALAMEDA	634.778	88.001	722.779
ALPINE	2.562	0.374	2.936
AMADOR	15.813	2.553	18.366
BUTTE	77.118	12.735	89.853
CALAVERAS	17.585	2.269	19.854
COLUSA	23.564	14.452	38.016
CONTRA COSTA	358.826	41.942	400.768
DEL NORTE	10.919	2.192	13.111
EL DORADO	75.553	9.685	85.239
FRESNO	301.589	69.073	370.662
GLENN	19.249	11.219	30.467
HUMBOLDT	53.244	10.909	64.153
IMPERIAL	71.847	25.207	97.054
INYO	21.082	4.623	25.705
KERN	297.620	126.123	423.743
KINGS	47.856	17.232	65.088
LAKE	23.060	3.212	26.272
LASSEN	25.733	6.346	32.079
LOS ANGELES	3691.658	523.414	4215.072
MADERA	58.197	21.229	79.425
MARIN	128.035	12.223	140.257
MARIPOSA	11.228	0.817	12.045
MENDOCINO	50.661	8.180	58.841
MERCED	97.273	38.125	135.398
MODOC	7.365	2.512	9.877
MONO	12.475	3.336	15.812
MONTEREY	164.068	32.298	196.366
NAPA	48.457	5.113	53.570
NEVADA	47.203	8.344	55.548
ORANGE	1185.104	155.143	1340.247
PLACER	131.500	22.469	153.969
PLUMAS	14.807	2.913	17.719
RIVERSIDE	662.172	175.879	838.051
SACRAMENTO	473.602	77.384	550.986
SAN BENITO	21.071	5.815	26.886
SAN BERNARDINO	768.025	209.673	977.698
SAN DIEGO	1181.966	144.662	1326.628
SAN FRANCISCO	178.470	14.301	192.770
SAN JOAQUIN	238.490	80.403	318.893
SAN LUIS OBISPO	120.726	21.863	142.589
SAN MATEO	342.651	30.489	373.140
SANTA BARBARA	163.798	26.588	190.385
SANTA CLARA	728.857	78.264	807.122
SANTA CRUZ	95.989	8.668	104.657
SHASTA	86.352	27.109	113.461
SIERRA	4.319	1.524	5.843
SISKIYOU	34.638	21.091	55.730
SOLANO	187.954	31.965	219.919
SONOMA	172.177	22.821	194.998
STANISLAUS	161.875	38.729	200.605
SUTTER	34.739	5.497	40.236
TEHAMA	36.071	15.512	51.583
TRINITY	7.043	2.324	9.367
TULARE	137.571	44.907	182.478
TUOLUMNE	23.574	3.186	26.760
VENTURA	295.756	45.333	341.089
YOLO	83.093	23.698	106.791
YUBA	27.794	4.124	31.917
TOTAL	13994.805	2446.070	16440.875

VFC in Million Gallons

2005 ANNUAL STATEWIDE VFC DISTRIBUTION BY COUNTY

COUNTY	GASOLINE	DIESEL	TOTAL
ALAMEDA	681.773	93.069	774.841
ALPINE	2.805	0.404	3.208
AMADOR	16.703	2.660	19.363
BUTTE	86.642	14.113	100.755
CALAVERAS	19.758	2.508	22.266
COLUSA	28.280	17.240	45.520
CONTRA COSTA	383.065	43.991	427.056
DEL NORTE	11.996	2.380	14.376
EL DORADO	85.846	10.829	96.675
FRESNO	334.382	75.717	410.099
GLENN	22.279	12.904	35.182
HUMBOLDT	55.654	11.270	66.924
IMPERIAL	85.805	29.853	115.658
INYO	22.244	4.826	27.069
KERN	340.703	143.254	483.956
KINGS	54.012	19.285	73.297
LAKE	26.190	3.593	29.783
LASSEN	28.373	6.925	35.298
LOS ANGELES	3950.201	551.606	4501.807
MADERA	68.252	24.699	92.951
MARIN	134.015	12.532	146.547
MARIPOSA	12.393	0.878	13.270
MENDOCINO	55.390	8.822	64.212
MERCED	109.730	42.668	152.398
MODOC	7.866	2.660	10.526
MONO	13.559	3.593	17.152
MONTEREY	184.189	35.821	220.010
NAPA	52.367	5.421	57.788
NEVADA	52.285	9.123	61.409
ORANGE	1274.468	164.175	1438.643
PLACER	150.415	25.356	175.771
PLUMAS	15.501	3.013	18.514
RIVERSIDE	777.948	204.566	982.514
SACRAMENTO	522.867	84.252	607.118
SAN BENITO	24.070	6.581	30.651
SAN BERNARDINO	880.917	238.117	1119.033
SAN DIEGO	1300.787	156.512	1457.298
SAN FRANCISCO	180.609	14.130	194.739
SAN JOAQUIN	270.162	90.285	360.447
SAN LUIS OBISPO	136.733	24.454	161.187
SAN MATEO	363.278	31.625	394.903
SANTA BARBARA	180.888	28.961	209.849
SANTA CLARA	787.706	83.008	870.715
SANTA CRUZ	106.899	9.446	116.345
SHASTA	95.177	29.606	124.784
SIERRA	4.443	1.555	5.998
SISKIYOU	36.889	22.320	59.209
SOLANO	207.485	34.822	242.308
SONOMA	188.817	24.631	213.448
STANISLAUS	184.037	43.554	227.591
SUTTER	38.697	6.037	44.735
TEHAMA	40.388	17.239	57.627
TRINITY	7.432	2.432	9.864
TULARE	155.771	50.394	206.164
TUOLUMNE	26.014	3.461	29.475
VENTURA	323.675	48.907	372.582
YOLO	91.943	25.973	117.916
YUBA	30.496	4.459	34.955
TOTAL	15331.267	2672.511	18003.778

VFC in Million Gallons

2010 ANNUAL STATEWIDE VFC DISTRIBUTION BY COUNTY

COUNTY	GASOLINE	DIESEL	TOTAL
ALAMEDA	726.190	97.278	823.469
ALPINE	3.045	0.430	3.475
AMADOR	17.496	2.737	20.233
BUTTE	96.538	15.439	111.977
CALAVERAS	22.015	2.742	24.757
COLUSA	33.644	20.202	53.846
CONTRA COSTA	405.571	45.668	451.239
DEL NORTE	13.069	2.548	15.617
EL DORADO	96.737	11.974	108.710
FRESNO	367.657	81.776	449.433
GLENN	25.563	14.580	40.143
HUMBOLDT	57.688	11.479	69.167
IMPERIAL	101.610	34.775	136.384
INYO	23.273	4.964	28.237
KERN	386.710	159.958	546.667
KINGS	60.446	21.227	81.673
LAKE	29.499	3.972	33.471
LASSEN	31.023	7.443	38.466
LOS ANGELES	4191.948	574.435	4766.383
MADERA	79.367	28.262	107.629
MARIN	139.119	12.745	151.864
MARIPOSA	13.566	0.938	14.504
MENDOCINO	60.058	9.392	69.451
MERCED	122.734	46.953	169.687
MODOC	8.330	2.770	11.100
MONO	14.614	3.809	18.423
MONTEREY	205.060	39.172	244.232
NAPA	56.124	5.695	61.820
NEVADA	57.434	9.842	67.275
ORANGE	1359.264	171.786	1531.050
PLACER	170.624	28.237	198.861
PLUMAS	16.093	3.073	19.166
RIVERSIDE	906.316	234.266	1140.582
SACRAMENTO	572.481	90.550	663.031
SAN BENITO	27.264	7.332	34.596
SAN BERNARDINO	1001.938	266.222	1268.160
SAN DIEGO	1419.738	167.530	1587.268
SAN FRANCISCO	181.276	13.878	195.154
SAN JOAQUIN	303.463	99.733	403.196
SAN LUIS OBISPO	153.575	26.983	180.558
SAN MATEO	381.974	32.562	414.537
SANTA BARBARA	198.105	31.141	229.246
SANTA CLARA	844.299	87.214	931.512
SANTA CRUZ	118.071	10.216	128.287
SHASTA	104.023	31.815	135.838
SIERRA	4.532	1.561	6.093
SISKIYOU	38.946	23.203	62.149
SOLANO	227.144	37.437	264.581
SONOMA	205.356	26.284	231.640
STANISLAUS	207.491	48.248	255.739
SUTTER	42.750	6.547	49.297
TEHAMA	44.837	18.833	63.669
TRINITY	7.777	2.504	10.281
TULARE	174.896	55.637	230.533
TUOLUMNE	28.469	3.717	32.186
VENTURA	351.298	52.108	403.406
YOLO	100.882	28.019	128.901
YUBA	33.185	4.762	37.947
TOTAL	16672.199	2884.605	19556.804

VFC in Million Gallons

2015 ANNUAL STATEWIDE VFC DISTRIBUTION BY COUNTY

COUNTY	GASOLINE	DIESEL	TOTAL
ALAMEDA	772.293	101.450	873.743
ALPINE	3.300	0.458	3.757
AMADOR	18.298	2.808	21.106
BUTTE	107.397	16.844	124.241
CALAVERAS	24.491	2.992	27.483
COLUSA	39.958	23.561	63.518
CONTRA COSTA	428.737	47.332	476.069
DEL NORTE	14.216	2.718	16.934
EL DORADO	108.839	13.214	122.053
FRESNO	403.612	88.011	491.623
GLENN	29.281	16.397	45.679
HUMBOLDT	59.702	11.653	71.355
IMPERIAL	120.128	40.339	160.467
INYO	24.311	5.088	29.399
KERN	438.209	177.822	616.031
KINGS	67.536	23.267	90.803
LAKE	33.173	4.381	37.554
LASSEN	33.867	7.970	41.837
LOS ANGELES	4441.604	596.831	5038.435
MADERA	92.141	32.203	124.344
MARIN	144.194	12.951	157.145
MARIPOSA	14.827	1.004	15.831
MENDOCINO	65.018	9.973	74.990
MERCED	137.054	51.446	188.499
MODOC	8.807	2.874	11.681
MONO	15.724	4.023	19.747
MONTEREY	227.936	42.700	270.636
NAPA	60.058	5.976	66.034
NEVADA	62.989	10.585	73.574
ORANGE	1447.461	179.384	1626.845
PLACER	193.245	31.355	224.600
PLUMAS	16.681	3.124	19.805
RIVERSIDE	1054.179	267.263	1321.442
SACRAMENTO	625.832	97.054	722.886
SAN BENITO	30.833	8.137	38.971
SAN BERNARDINO	1137.762	296.503	1434.265
SAN DIEGO	1547.160	178.999	1726.159
SAN FRANCISCO	181.669	13.633	195.302
SAN JOAQUIN	340.317	109.714	450.031
SAN LUIS OBISPO	172.219	29.684	201.903
SAN MATEO	401.007	33.513	434.520
SANTA BARBARA	216.619	33.394	250.014
SANTA CLARA	903.562	91.514	995.076
SANTA CRUZ	130.209	11.045	141.254
SHASTA	113.508	34.050	147.558
SIERRA	4.616	1.560	6.175
SISKIYOU	41.047	24.006	65.054
SOLANO	248.271	40.134	288.405
SONOMA	222.997	27.989	250.987
STANISLAUS	233.567	53.256	286.823
SUTTER	47.154	7.081	54.235
TEHAMA	49.693	20.483	70.176
TRINITY	8.124	2.568	10.691
TULARE	196.055	61.175	257.231
TUOLUMNE	31.108	3.983	35.091
VENTURA	380.683	55.377	436.060
YOLO	110.512	30.109	140.621
YUBA	36.054	5.073	41.128
TOTAL	18119.848	3108.031	21227.879

VFC in Million Gallons

2020 ANNUAL STATEWIDE VFC DISTRIBUTION BY COUNTY

COUNTY	GASOLINE	DIESEL	TOTAL
ALAMEDA	830.087	107.109	937.195
ALPINE	3.615	0.493	4.107
AMADOR	19.340	2.916	22.256
BUTTE	120.756	18.602	139.358
CALAVERAS	27.537	3.305	30.842
COLUSA	47.953	27.808	75.761
CONTRA COSTA	458.072	49.668	507.740
DEL NORTE	15.628	2.936	18.564
EL DORADO	123.765	14.763	138.528
FRESNO	447.811	95.878	543.689
GLENN	33.892	18.663	52.555
HUMBOLDT	62.445	11.974	74.418
IMPERIAL	143.526	47.359	190.886
INYO	25.665	5.279	30.944
KERN	501.819	200.070	701.888
KINGS	76.258	25.811	102.070
LAKE	37.703	4.893	42.596
LASSEN	37.365	8.639	46.004
LOS ANGELES	4756.431	627.773	5384.205
MADERA	108.103	37.137	145.240
MARIN	151.053	13.326	164.378
MARIPOSA	16.379	1.088	17.467
MENDOCINO	71.137	10.719	81.856
MERCED	154.663	57.049	211.712
MODOC	9.410	3.017	12.427
MONO	17.098	4.301	21.399
MONTEREY	256.064	47.116	303.180
NAPA	64.955	6.348	71.303
NEVADA	69.818	11.524	81.342
ORANGE	1557.861	189.643	1747.503
PLACER	221.199	35.246	256.445
PLUMAS	17.475	3.216	20.690
RIVERSIDE	1239.199	308.616	1547.814
SACRAMENTO	691.465	105.307	796.772
SAN BENITO	35.239	9.141	44.380
SAN BERNARDINO	1305.725	334.242	1639.967
SAN DIEGO	1704.029	193.630	1897.659
SAN FRANCISCO	184.014	13.563	197.577
SAN JOAQUIN	385.695	122.156	507.851
SAN LUIS OBISPO	195.182	33.056	228.237
SAN MATEO	425.485	34.926	460.411
SANTA BARBARA	239.389	36.251	275.640
SANTA CLARA	977.330	97.228	1074.558
SANTA CRUZ	145.133	12.090	157.223
SHASTA	125.173	36.884	162.057
SIERRA	4.750	1.577	6.327
SISKIYOU	43.716	25.136	68.852
SOLANO	274.254	43.553	317.807
SONOMA	244.742	30.175	274.917
STANISLAUS	265.724	59.501	325.225
SUTTER	52.566	7.752	60.319
TEHAMA	55.656	22.547	78.203
TRINITY	8.576	2.665	11.240
TULARE	222.109	68.082	290.191
TUOLUMNE	34.355	4.320	38.675
VENTURA	416.929	59.577	476.506
YOLO	122.347	32.747	155.094
YUBA	39.591	5.472	45.063
TOTAL	19923.256	3393.860	23317.116

VFC in Million Gallons